Chapter 3
Environmental Impact Analysis

3.1 Introduction

Organized by environmental resource area, this chapter provides an integrated discussion of the regulatory and environmental setting as well as impact analyses, including mitigation measures, for potentially significant impacts associated with construction and operation of the Morrison Canyon Road Traffic Safety Project. Resource areas identified as having the potential for significant environmental impacts are discussed in detail in Section 3.1, *Air Quality;* Section 3.2, *Noise and Vibration*; Section 3.3, *Greenhouse Gases*; Section 3.4, *Land Use and Planning*; Section 3.5, *Public Services*; and Section 3.6, *Transportation and Circulation*. Resource areas identified as not having a potential for such impacts are described in Section 3.7, *Other Resources*. Project-level elements presented in Chapter 2, *Project Description*, are analyzed at a project level of detail in this environmental impact report (EIR), based on preliminary engineering analysis. Program-level elements presented in Chapter 2 are analyzed at a programmatic level of detail in this EIR, based on conceptual engineering plans.

3.2 Chapter Organization

Resource areas identified as having the potential for significant environmental impacts are discussed in this chapter in detail. Resource areas identified as not having the potential for such impacts are discussed in Section 3.7, *Other Resources*, which describes both the project setting and potential non-significant project-related impacts associated aesthetics, agriculture and forestry resources, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, mineral resources, population and housing, public services, recreation, tribal cultural resources, utilities and service systems, and wildfire.

Chapter 3 is organized into the following environmental resource sections:

- 3.1, Air Quality
- 3.2, Noise and Vibration
- 3.3, Greenhouse Gases
- 3.4, Land Use and Planning
- 3.5, Public Services
- 3.6, Transportation and Circulation
- 3.7, Other Resources

Sections 3.1 through 3.6 contain the information listed below:

- **Introduction**—Presents an overview of the environmental resource and cross-references related issues addressed elsewhere in the EIR.
- **Regulatory Setting**—Identifies the federal, state, regional, and local laws, regulations, ordinances, and policies relevant to each environmental resource area and applicable to construction, operation, and maintenance of the project.

- **Environmental Setting**—Provides an overview of the existing physical considerations for an environmental resource in the area at the time of, or prior to, publication of the notice of preparation that could be affected by project implementation. The environmental setting provides the basis of analysis of potential impacts related to each environmental resource.
- **Impact Analysis**—Describes the methodology used for the analysis, identifies the criteria used to determine the significance of potential impacts, and provides a corresponding discussion of impacts associated with project implementation. For each potential impact, a significance determination is made (e.g., no impact, less than significant, less than significant with mitigation, significant and unavoidable). If required, feasible mitigation measures are identified to reduce significant impacts.

All resource topics discussed in Section 3.7, *Other Resources*, include a general project setting relevant to the resource area being discussed as well as an impact analysis.

3.3 Approach to Impact Analysis

3.3.1 Environmental Baseline

Normally, the environmental setting or baseline describes physical conditions in the vicinity of the project at the time of issuance of the Notice of Preparation of an EIR. For this project, the Notice of Preparation was issued on October 4, 2019. In November 2018, the City of Fremont instituted a temporary closure of middle Morrison Canyon Road and the closure was in effect in October 2019 at the time of NOP issuance.

Instead of utilizing existing physical conditions as the environmental baseline, consistent with CEQA, the City here has determined it would utilize an alternative baseline, which the City has determined provides a more reasonable and appropriate basis for evaluating the project's potential impacts. Specifically, the City has determined that utilizing the existing physical conditions at the time of NOP issuance October 2019 (in other words, with the temporary closure in effect) would have presented a less informative analysis for disclosing potential environmental effects of the project than it would have by utilizing a baseline that considered middle Morrison Canyon Road operational. Accordingly, a transportation analysis examining October 2019 conditions against proposed project conditions would find essentially identical conditions and thus, essentially, no effect under CEQA. Although this analysis would be consistent with CEQA, it would not substantially advance the informative purposes of document, which are to show the effects of a long-term closure in comparison to reopening the roadway.

The City, as CEQA lead agency, has discretion to use its chosen different, alternative environmental baseline because it provides a reasonable and realistic basis for disclosing and evaluating the effects of long-term closure of middle Morrison Canyon Road. Accordingly, all analyses within this EIR use an environmental baseline of immediately prior to the November 2018 temporary closure in order to more fully and accurately disclose potential environmental effects of the proposed project (a permanent closure). Such use of an environmental baseline different from the date of the NOP is permissible under CEQA Guidelines 15125(a)(1). This section states that:

> Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define

existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence.

In addition, it should be noted that the baseline assumption that the now-temporarily closed middle Morrison Canyon Road is operational should be considered in proper context. Even prior to the November 2018 temporary closure, Morrison Canyon Road never was a particularly reliable thoroughfare or method of access to upper Morrison Canyon. To the contrary, the road historically and frequently was subject to unplanned closures due to landslides, roadway obstructions, and other similar reasons. As a result, the selected baseline, which assumes a fully operational Morrison Canyon Road, results in an extremely conservative analysis that provides a credible worst-case scenario in terms of evaluating potentially significant effects of long-term closure.

3.3.2 Significance Criteria

The significance criteria used in this EIR to define the level at which an impact would be considered significant, in accordance with the California Environmental Quality Act (CEQA), are presented under the subheading *Significance Criteria* in each environmental resource section's impacts analysis. In accordance with Section 15022(a) of the State CEQA Guidelines, the City of Fremont uses significance criteria that are based on State CEQA Guidelines Appendix G, factual and scientific information and data, and the regulatory standards of the federal, state, regional, and local jurisdictions in which the project is proposed.

3.3.3 Evaluation of Impacts

Each environmental resource section identifies impacts and lists them sequentially. For example, *AQ-1* denotes the presentation of the first impact in the air quality section. An impact statement precedes the discussion of each impact and provides a summary of the impact topic.

The level of significance associated with an impact is determined by comparing the environmental effects of constructing, operating, and maintaining the project to existing environmental conditions and applying the identified significance threshold.

This EIR uses a variety of terms to describe the levels of significance for the impacts identified in the environmental analysis. Each impact is categorized as one of the following:

- **No impact**—Project implementation would not cause any adverse change in the environment.
- **Less-than-significant impact**—Project implementation would not cause a substantial adverse change in the environment because the specified standard of significance would not be exceeded; therefore, mitigation measures would not be required.
- **Potentially significant impact**—Project implementation would cause a substantial adverse change in the physical conditions of the environment that would be in excess of the specified standard. This is typically the level of significance for an impact prior to application of the feasible mitigation measures.
- **Less than significant with mitigation**—Project implementation would cause a substantial adverse change in the physical conditions of the environment that would be in excess of the specified standard of significance; however, one or more of the feasible mitigation measures would reduce environmental effects to levels that would be below the specified standard of significance.

- **Significant and unavoidable**—Project implementation would cause a substantial adverse change in the physical condition of the environment because there is no feasible mitigation available or, even with implementation of feasible mitigation measures, the proposed project would have a significant adverse effect on the environment that would be in excess of the specified standard of significance.

State CEQA Guidelines Section 15126.4(a)(1) states that an EIR "shall describe feasible measures that could minimize significant adverse impacts." Mitigation measures identified in this EIR were developed during the analysis and designed to reduce, minimize, or avoid potential environmental impacts associated with project construction as well as operations and maintenance. The mitigation measures are numbered to correspond to the impacts they address. For example, Mitigation Measure AQ-2.1 refers to the first mitigation measure for Impact AQ-2 in the air quality section. The description of the mitigation measure identifies which specific project components or activities the measure applies to.

3.3.4 Cumulative Impacts

Cumulative impacts are impacts that could result from the combination of both proposed project activities and reasonably anticipated activities pertaining to another project in the same vicinity, which would occur concurrently with either proposed project construction or operation. A discussion of the proposed project's potential contribution to cumulative impacts is provided separately in Chapter 5.0, *CEQA Required Assessment Conclusions*.

3.1 Air Quality

This section describes the environmental and regulatory setting for air quality. It also describes the air quality impacts that would result from implementation of the project.

3.1.1 Regulatory Setting

The federal Clean Air Act (CAA) and its subsequent amendments form the basis for the nation's air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA. A key element of the CAA is the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The CAA delegates enforcement of the NAAQS to the states. In California, the California Air Resources Board (CARB) is responsible for enforcing air pollution regulations and ensuring that the NAAQS and the California Ambient Air Quality Standards (CAAQS) are met. CARB, in turn, delegates regulatory authority for stationary sources and other air quality management responsibilities to local air agencies. The Bay Area Air Quality Management District (BAAQMD) is the local air agency for the project area. The following sections provide more detailed information on the federal, state, and local air quality regulations that apply to the project.

3.1.1.1 Federal

Clean Air Act and Ambient Air Quality Standards

The CAA was enacted in 1963; it has been amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as the NAAQS, for six criteria pollutants and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement a State Implementation Plan (SIP) for local areas that fail to meet the standards. The plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA identify specific emissions-reduction goals for areas that fail to meet the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. Table 3.1-1 shows the NAAQS that are currently in effect for each criteria pollutant as well as the CAAQS (discussed further below).

3.1.1.2 State

California Clean Air Act and Ambient Air Quality Standards

In 1988, the state legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. The CCAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the CAA, the CCAA does not set precise attainment deadlines. Instead, the CCAA establishes increasingly stringent requirements for areas that require more time to achieve the standards. The CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The CAAQS and NAAQS are shown in Table 3.1-1.

Table .1-1. Federal and State Ambient Air Quality Standards

			Federal Standards[a]	
Criteria Pollutant	**Average Time**	**California Standards**	**Primary**	**Secondary**
Ozone	1-hour average	0.09 ppm	None[b]	None[b]
	8–hour average	0.070 ppm	0.070 ppm	0.070 ppm
Particulate Matter (PM10)	24-hour average	50 μg/m^3	150 μg/m^3	150 μg/m^3
	Annual mean	20 μg/m^3	None	None
Fine Particulate Matter (PM2.5)	24-hour average	None	35 μg/m^3	35 μg/m^3
	Annual mean	12 μg/m^3	12.0 μg/m^3	15 μg/m^3
Carbon Monoxide	8-hour average	9.0 ppm	9 ppm	None
	1-hour average	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour average	0.18 ppm	0.100 ppm	None
Sulfur Dioxide[c]	Annual mean	None	0.030 ppm	None
	24-hour average	0.04 ppm	0.014 ppm	None
	3-hour average	None	None	0.5 ppm
	1-hour average	0.25 ppm	0.075 ppm	None
Lead	30-day average	1.5 μg/m^3	None	None
	Calendar quarter	None	1.5 μg/m^3	1.5 μg/m^3
	3-month average	None	0.15 μg/m^3	0.15 μg/m^3
Sulfates	24-hour average	25 μg/m^3	None	None
Visibility-reducing Particles	8-hour average	—[d]	None	None
Hydrogen Sulfide	1-hour average	0.03 ppm	None	None
Vinyl Chloride	24-hour average	0.01 ppm	None	None

Source: California Air Resources Board 2016a.

a. Federal standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

b. The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for SIPs.

c. The annual and 24-hour NAAQS for SO_2 apply for only 1 year after designation of the new 1-hour standard to those areas that were previously in nonattainment for the 24-hour and annual NAAQS.

d. The CAAQS for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer (visibility of 10 miles or more due to particles when relative humidity is less than 70 percent).

ppm = parts per million; μg/m^3 = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; SO_2 = sulfur dioxide; CAAQS = California Ambient Air Quality Standards; SIP = State Implementation Plan

CARB and local air districts bear responsibility for meeting the CAAQS, which are to be achieved through the district-level air quality management plans incorporated into the SIP. In California, EPA has delegated the authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB has traditionally established state air quality standards by maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emissions inventories, collecting air quality and meteorological data, and approving SIPs.

The CCAA adds substantially to the authority and responsibilities of the air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts the authority to implement transportation control measures. The CCAA also emphasizes control of indirect and area-wide sources of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and establish traffic control measures.

Toxic Air Contaminant Regulations

California regulates toxic air contaminants (TACs) primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("Hot Spots" Act). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce exposure to air toxics. The "Hot Spots" Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

3.1.1.3 Regional and Local

Bay Area Air Quality Management District

At the local level, responsibilities of air quality districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA. The air quality districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and ensuring that the NAAQS and CAAQS are met.

The project falls under the jurisdiction of the BAAQMD, which has local air quality jurisdiction over projects in the San Francisco Bay Area Air Basin (SFBAAB), including Alameda County. The BAAQMD developed advisory emissions thresholds to assist CEQA lead agencies in determining the level of significance of a project's emissions, as outlined in *California Environmental Quality Act Air Quality Guidelines* (Bay Area Air Quality Management District 2017b). The BAAQMD has also adopted air quality plans to improve air quality, protect public health, and protect the climate; this includes *Spare the Air, Cool the Climate* (Final 2017 Clean Air Plan) (Bay Area Air Quality Management District 2017a).

The Final 2017 Clean Air Plan, adopted by the BAAQMD on April 19, 2017, updates the 2010 Bay Area Ozone Plan and outlines feasible measures to reduce ozone; provides a control strategy for reducing particulate matter, air toxics, and greenhouse gases (GHGs) in a single, integrated plan; and establishes emissions control measures for adoption or implementation. The Final 2017 Clean Air Plan contains the following primary goals (consistency with these goals is evaluated in this chapter):

- **Protect Air Quality and Health at the Regional and Local Scale:** Attain all state and national air quality standards and eliminate disparities among Bay Area communities regarding the cancer health risk from TACs; and
- **Protect the Climate:** Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The Final 2017 Clean Air Plan is the current air quality for the air basin. Consistency with the plan is the basis for determining whether the project would conflict with or obstruct implementation of an air quality plan.

City of Fremont General Plan

The City of Fremont General Plan, adopted in 2011, includes goals, policies, and implementation measures related to air quality and emissions reductions (City of Fremont 2011). One goal in the general plan (Goal 7-7) is to improve air quality compared with current conditions and meet or exceed state and regional standards.

City of Fremont Municipal Code

The City of Fremont has established Standard Development Requirements (18.218.050) to address resource protection. These requirements apply to construction-related fugitive dust and exhaust emissions. Requirements generally include daily watering of exposed surfaces, rules for the use of haul trucks off-site and on public roads, speed limits on unpaved roads, idling times, priority given to complete paving, construction equipment maintenance, and on-site posted contact information for dust complaints (City of Fremont 2019).

3.1.2 Environmental Setting

The project area is within the SFBAAB, which comprises the study area for the project. Ambient air quality is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. The following sections summarize how air pollution moves through air, water, and soil in the air basin and how it is chemically changed in the presence of other chemicals and particles.

3.1.2.1 Pollutants of Concern

Criteria Air Pollutants

As described above, the federal and state governments have established ambient air quality standards for six criteria pollutants. Ozone is considered a regional pollutant because its precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are considered local pollutants because they tend to accumulate in the air locally. Particulate matter is both a regional and local pollutant.

All of the criteria pollutants can have human health effects at certain concentrations. The ambient air quality standards for these pollutants are set to public health and the environment with an adequate margin of safety (CAA Section 109). Epidemiological studies, controlled human-exposure studies, and toxicology studies evaluate the potential health and environmental effects of criteria pollutants and form the scientific basis for new and revised ambient air quality standards.

The principal characteristics of the primary criteria pollutants generated by the project and the possible health and environmental effects related to exposure are discussed below.

Ozone, or smog, is photochemical oxidant that is formed when reactive organic gases (ROGs) and oxides of nitrogen (NO_X), both of which are by-products of the internal combustion engine, react with sunlight. ROGs are made up primarily of hydrogen and carbon atoms, and internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROGs are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products, such as aerosols. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO, a colorless, odorless gas, forms

from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown gas formed by the combination of NO and oxygen and considered an irritant. In addition to serving as an integral participant in ozone formation, NO_X also acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Ozone poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoors. Exposure to ozone at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggravate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest that long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2018a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, the level of exertion (i.e., breathing rate), and the duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms in the least-responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrease in forced airway volume in the most-responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2016). The average background level of ozone in the Bay Area is approximately 45 parts per billion (Bay Area Air Quality Management District 2017b).

In addition to human health effects, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. Ozone can also act as a corrosive and oxidant, resulting in property damage, such as the degradation of rubber products and other materials.

Carbon monoxide is a colorless, odorless toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. In the study area, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects related to ambient CO (California Air Resources Board 2016b).

Particulate matter consists of finely divided solids or liquids, such as soot, dust, aerosols, fumes, and mists. Two forms of particulates are now generally considered: inhalable course particles, or PM10, and inhalable fine particles, or PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading.

Particulate pollution can be transported over long distances and may adversely affect human health, especially for people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked particulate matter exposure to premature death in people with a

history of heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, or respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in PM2.5 results in a 1 percent reduction in the mortality rate for individuals over 30 years old (Bay Area Air Quality Management District 2017a). Depending on its composition, both PM10 and PM2.5 can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2018b).

Toxic Air Contaminants

Although ambient air quality standards have been established for criteria pollutants, no ambient standards exist for toxic air contaminants (TAC)s. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. TACs are identified, and their toxicity studied, by the California Office of Environmental Health Hazard Assessment.

Asbestos is the name given to several naturally occurring fibrous silicate minerals. Before the adverse health effects were identified, asbestos was widely used as insulation and fireproofing material in buildings; it can still be found in some older buildings. It is also found in its natural state in rock and soil. The inhalation of asbestos fibers can result in a variety of adverse health effects, including inflammation of the lungs, respiratory ailments (e.g., asbestosis, which is scarring of lung tissue that results in constricted breathing), and cancer (e.g., lung cancer and mesothelioma, which is cancer of the lining of the lungs and abdomen).

Diesel particulate matter (DPM) is generated by diesel-fueled equipment and vehicles. Within the Bay Area, the BAAQMD (2017a) has found that of all controlled TACs, emissions of DPM are responsible for about 82 percent of the total ambient cancer risk. Short-term exposure to DPM can cause acute irritation (e.g., eye, throat, bronchial), neurophysiological symptoms (e.g., lightheadedness and nausea), and respiratory symptoms (e.g., cough and phlegm). The EPA (2002) has determined that diesel exhaust is "likely to be carcinogenic to humans by inhalation."

Odors

Offensive odors can be unpleasant and lead to citizen complaints to local governments and air districts. According to CARB's (2005) *Air Quality and Land Use Handbook: A Community Health Perspective*, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, manufacturing facilities, and agricultural properties.

3.1.2 Impact Analysis

This section describes the environmental impacts of the project on air quality. It describes the thresholds used to determine whether an impact would be significant and the methods used to evaluate the impacts.

3.1.2.1 Methods for Analysis

Given the limited level of construction that would occur (i.e., installation of barricades and signage with the use of hand tools, requiring approximately 1 day of work, and one or two pickup trucks), a qualitative assessment was conducted for construction-related air quality impacts. Effects from operation of the project were evaluated by comparing vehicle miles traveled (VMT) before and after implementation of the project. The project analysis considers the thresholds established by the BAAQMD (Bay Area Air Quality Management District 2017b).

3.1.2.2 Thresholds of Significance

State CEQA Guidelines Appendix G (14 California Code of Regulations Section 15000 et seq.) has identified the significance criteria to be considered in determining whether a project could have significant air quality impacts.

An impact would be considered significant if construction or operation of the project would result in any of the following consequences:

- Conflict with or obstruct implementation of the applicable air quality plan
- Generate a cumulatively considerable net increase in any criteria pollutant for which the project region is in nonattainment status with respect to an applicable federal or state ambient air quality standard
- Expose sensitive receptors to substantial pollutant concentrations
- Produce other emissions (such as those leading to odors) that would affect a substantial number of people

3.1.2.3 Impacts and Mitigation Measures

Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)

The Final 2017 Clean Air Plan includes two primary goals: (1) to protect air quality and health at the regional and local scale, and (2) to protect the climate. Chapter 5 of the Final 2017 Clean Air Plan identifies the strategies for implementing these goals (Bay Area Air Quality Management District 2017a). One of the key elements for reducing transportation-related emissions is to reduce the demand for motor vehicle travel while promoting efficient vehicles. Overall, the project would result in a reduction in VMT (i.e., from 3,219 miles per day under the no-project condition to 2,931 miles per day with implementation of the project). Because the project would result in an overall reduction in VMT, which would decrease emissions, the project would not conflict with or obstruct implementation of the Final 2017 Clean Air Plan. Impact AQ-1 would be **less than significant.**

Impact AQ-2: The proposed project would not result in a cumulatively considerable net increase in any criteria pollutant for which the project region is in nonattainment status with respect to an applicable federal or state ambient air quality standard. (Less than Significant)

Construction

Construction of the project, which would rely on hand tools, would be expected to be limited to 1 day and would require one or two pickup trucks. The use of two pickup trucks for 1 day would be expected

to generate less than 0.1 pound of each air pollutant (i.e., ROG, NO_X, PM10, PM2.5) (Reyff pers. comm.). Accordingly, construction emissions are expected to be well below the construction-related emissions thresholds established by the BAAQMD (i.e., 54 pounds per day for ROG, NO_X, and PM2.5 and 84 pounds per day for PM10) (Bay Area Air Quality Management District 2017b). As a result, construction-related air quality impacts would not exceed the significance thresholds identified by the BAAQMD. Therefore, because of the limited nature and duration of construction, project construction would not result in a cumulatively considerable net increase in any criteria pollutants. Impact AQ-2 would be **less than significant** during project construction**.**

Operation

As described in detail in Section 3.6, *Transportation and Circulation*, and summarized in Appendix B, operation of the project would result in an overall reduction in VMT (i.e., from 3,219 miles per day under the no-project condition to 2,931 miles per day with implementation of the project). As a result, it is likely that operation of the project would result in a net decrease in criteria pollutant emissions. Therefore, operation of the project would not result in a cumulatively considerable net increase in any criteria pollutants. Impact AQ-2 would be **less than significant** during project operation**.**

Impact AQ-3: The proposed project would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

Construction

Construction of the project would be limited to 1 day and would not require demolition, the use of heavy equipment, multiple phases of construction, extensive site preparation, or extensive material transport. Furthermore, there are no sensitive receptors (such as residences or schools) in the immediate vicinity of the project area. The closest sensitive receptor (a residence) is approximately 1,000 feet away. Therefore, because of the limited scale and short duration, project construction would not expose sensitive receptors to substantial permanent pollutant concentrations. Impact AQ-3 would be **less than significant** during project construction**.**

Operation

As described in Section 3.7.10, *Population and Housing*, the project would not result in direct or indirect population growth; therefore, operation of the project would not be expected to generate new vehicle trips that could result in pollutant emissions. In fact, operation of the project would result in an overall reduction in VMT (i.e., from 3,219 miles per day under the no-project condition to 2,931 miles per day with implementation of the project). Because of this reduction in VMT, emissions of pollutants would be expected to drop relative to the no-project condition (i.e., if Morrison Canyon Road were to remain fully open to two-way traffic). In addition, permanent closure of Morrison Canyon Road (as a part of the project) would result in a change in the distribution of vehicles on roadways within the City of Fremont. The BAAQMD recommends analyzing traffic on roadways with more than 10,000 vehicles per day. The project would be expected to redistribute a total of 396 daily trips from Morrison Canyon Road to two other roadways, with 166 daily trips on SR-84 and 230 daily trips on I-680. The redistribution of 166 and 230 daily trips on SR-84 and I-680, respectively, is considerably less than the 10,000 vehicles per day in the BAAQMD recommendation. Moreover, the redistributed trips would be made in personal vehicles, the majority of which are gasoline operated and do not generate DPM. Therefore, the release of TACs from the redistribution of vehicle trips would be minimal.

Operation of the project would not expose sensitive receptors to substantial pollutant concentrations. Impact AQ-3 would be **less than significant** during project operation**.**

Impact AQ-4: The proposed project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. (Less than Significant)

Objectionable odors are typically associated with landfills, sewer treatment plants, waste, industrial land uses, and some commercial uses, such as restaurants. The project does not include any of these odor-creating features. The project would be limited to the closure of a roadway, resulting in the redistribution of vehicles to other roadways. Therefore, operation of the project would not result in other emissions, such as those leading to odors that would adversely affect a substantial number of people. Impact AQ-4 would be **less than significant** during project operation**.**

Some construction activities have the potential to generate localized odors. However, construction of the project would be limited to 1 day and would not require the use of heavy equipment. Furthermore, construction would occur on Morrison Canyon Road, which is outside the urban center of Fremont. In fact, the closest sensitive receptor (a residence) is approximately 1,000 feet away. Given the limited potential for odors and the distance between the project site and the sensitive receptor, construction of the project would not result in other emissions, such as those leading to odors that would adversely affect a substantial number of people. Impact AQ-4 would be **less than significant** during project construction**.**

3.1.3 References

Bay Area Air Quality Management District. 2017a. *Spare the Air, Cool the Climate*, *the Final 2017 Clean Air Plan*. Adopted April 19. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf. Accessed: December 30, 2019.

Bay Area Air Quality Management District. 2017b. *California Environmental Quality Act Air Quality Guidelines.* May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: December 30, 2019.

California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April. Available: https://www.arb.ca.gov/ch/handbook.pdf. Accessed: December 31, 2019.

California Air Resources Board. 2016a. *Ambient Air Quality Standards*. May 4. Available: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed: December 31, 2019.

California Air Resources Board. 2016b. *Carbon Monoxide and Health.* Last reviewed: August 22. Available: https://ww3.arb.ca.gov/research/aaqs/caaqs/co/co.htm. Accessed: March 25, 2019.

City of Fremont. 2011. *City of Fremont General Plan*. Conservation Element. Adopted: December 2011. Available: https://fremont.gov/DocumentCenter/View/4671/07-Conservation?bidId=. Accessed: December 30, 2019.

City of Fremont. 2019. Fremont Municipal Code. Standard Development Requirements. Current through Ordinance 12-2019, passed November 5, 2019. Available:

https://www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18218.html#18.218.050. Accessed February 27, 2020.

U.S. Environmental Protection Agency. 2002. *Health Assessment Document for Diesel Engine Exhaust*. Available: http://nepis.epa.gov/Exe/ZyPDF.cgi/300055PV.PDF?Dockey=300055PV.PDF. Accessed: December 31, 2019.

U.S. Environmental Protection Agency. 2016. *Health Effects of Ozone in the General Population*. Last updated: September 12. Available: https://www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-general-population. Accessed: March 25, 2019.

U.S. Environmental Protection Agency. 2018a. *Health Effects of Ozone Pollution*. Last updated: October 10. Available: https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution. Accessed: March 25, 2019.

U.S. Environmental Protection Agency. 2018b. *Health and Environmental Effects of Particulate Matter.* Last updated: June 20. Available: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm. Accessed: March 25, 2019.

Personal Correspondence

Reyff, James. Illingworth & Rodkin, Inc., Coati, CA. January 3, 2020—email correspondence with Leo Mena of ICF.

3.2 Noise and Vibration

3.2.1 Introduction

This section describes the environmental and regulatory setting for noise and vibration. It also describes the impacts associated with noise and vibration that would result from implementation of the proposed project and mitigation for significant impacts where feasible and appropriate.

3.2.1.1 Terminology

A brief description of the noise and vibration concepts and terminology used in this assessment is provided below.

- **Sound**. A vibratory disturbance transmitted by pressure waves through a medium such as air or water that is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise**. Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB)**. A unitless measure of sound on a logarithmic scale that indicates the squared ratio of the sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion; rather, they combine logarithmically. For instance, if two identical noise sources each produce noise levels of 50 dBA (see definition immediately following), the combined sound level would be 53 dBA, not 100 dBA.
- **A-Weighted Decibel (dBA)**. An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. The dBA scale is the most widely used for environmental noise assessments.
- **Maximum Sound Levels (L_{max})**. The maximum sound level measured during a given measurement period.
- **Equivalent Sound Level (L_{eq})**. The equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy. The 1-hour A-weighted equivalent sound level (L_{eq} 1h) is the energy average of A-weighted sound levels occurring during a 1-hour period.
- **Day-Night Level (L_{dn})**. The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10 dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL)**. The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. L_{dn} and CNEL are typically within 1 dBA of each other and, for all intents and purposes, interchangeable.
- **Noise-Sensitive Land Uses**. Noise-sensitive land uses are generally defined as locations where people reside, or the presence of unwanted sound could adversely affect use of the land. Noise-sensitive land uses typically include single- and multi-family residential areas, health care facilities, lodging facilities, and schools. Recreational areas where quiet is an important part of the environment can also be considered sensitive to noise. Some commercial areas may be considered noise sensitive as well, such as outdoor restaurant seating areas.

3.2.1.2 Overview of Noise and Sound

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, an evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies over the entire spectrum; therefore, noise measurements are weighted more heavily toward frequencies to which humans are sensitive through a process referred to as A-weighting. Table 3.2-1 summarizes typical A-weighted sound levels for different noise sources.

Table 3.2-1. Typical A-Weighted Sound Levels

Common Outdoor Activities	Sound Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area, daytime	50	Dishwasher in next room
Quiet urban area, nighttime	40	Theater, large conference room (background)
Quiet suburban area, nighttime		
	30	Library
Quiet rural area, nighttime		Bedroom at night, concert hall (background)
Rustling of leaves	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: California Department of Transportation 2013.

Human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, for example, this means that the volume of traffic on a roadway would typically need to double to result in a noticeable increase in noise (California Department of Transportation 2013).

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a point source, such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance. Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers, such as buildings and topography, which block the line of sight between a source and receiver, also increase the attenuation of sound over distance.

In urban environments, simultaneous noise from multiple sources may occur. Because sound pressure levels in decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. Adding a new noise source to an existing noise source, with both producing noise at the same level, will not double the noise level. If the difference between two noise sources is 10 dBA or more, the higher noise source will dominate, and the resultant noise level will be equal to the noise level of the higher noise source. In general, if the difference between two noise sources is 0 to 1 dBA, the resultant noise level will be 3 dBA higher than the higher noise source, or both sources if the sources are equal. If the difference between two noise sources is 2 to 3 dBA, the resultant noise level will be 2 dBA above the higher noise source. If the difference between two noise sources is 4 to 10 dBA, the resultant noise level will be 1 dBA higher than the higher noise source.

Community noise environments are generally perceived as quiet when the 24-hour average noise level is below 45 dBA, moderate in the 45 to 60 dBA range, and loud above 60 dBA. Very noisy urban residential areas are usually around 70 dBA L_{dn} or CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA L_{dn} or CNEL. Incremental increases of 3 to 5 dB to the existing 1-hour L_{eq}, or to the L_{dn}/CNEL, are common thresholds for an adverse community reaction to a noise increase. However, there is evidence that incremental thresholds in this range may not be adequately protective in areas where noise-sensitive uses are located and L_{dn}/CNEL is already high (i.e., above 60 dBA). In these areas, limiting noise increases to 3 dB or less is recommended (Federal Transit Administration 2006). Noise intrusions that cause short-term interior noise levels to rise above 45 dBA at night can disrupt sleep. Exposure to noise levels greater than 85 dBA over 8 hours or longer can cause permanent hearing damage.

3.2.1.3 Overview of Ground-borne Vibration

The operation of heavy construction equipment, particularly pile-driving equipment and other impact devices (e.g., pavement breakers), creates seismic waves that radiate along the surface of the ground and downward. These surface waves can be felt as ground vibration. Vibration from the

operation of this type of equipment can result in effects that range from annoyance for people to damage for structures. Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they cause rock and soil particles to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch.

3.2.2 Regulatory Setting

3.2.2.1 Federal

There are no relevant federal regulations for noise and vibration.

3.2.2.2 State

There are no relevant state regulations for noise and vibration

3.2.2.3 Regional and Local

City of Fremont General Plan

The Safety Element of the City of Fremont General Plan includes policies to regulate and minimize noise and vibration impacts on residents and properties (City of Fremont 2011). The following policies would apply to the project:

- **Policy 10-8.3: Noise Environment Protection**. Protect existing residential neighborhoods from noise. In general, the City will require the evaluation of mitigation measures for projects under the following circumstances:
    - The project would cause the L_{dn} to increase by 5 dBA or more but would remain below 60 dBA, or
    - The project would cause the L_{dn} to increase by 3 dBA or more and exceed 60 dBA, or
    - The project has the potential to generate a significant adverse community response due to the unusual character of the noise.
- **Policy 10-8.5: Construction Noise Levels**. Control construction noise at its source to maintain existing noise levels and in no case exceed the acceptable noise levels.
    - **Implementation 10-8.5.B: Construction Noise Mitigation.** Continue to apply the construction hours ordinance to new development to limit noise exposure created by construction activity. Apply best practices to further limit noise in sensitive areas and long-term projects, such as maintaining construction equipment in good condition and use of mufflers on internal combustion engines, installation of temporary noise barriers, prohibiting extended idling time of internal combustion engines, locating staging areas away from sensitive receptors, and other feasible best management practices.
- **Policy 10-8.6: Sensitive Uses**. Protect schools, hospitals, libraries, places of religious worship, convalescent homes, and other noise-sensitive uses from noise levels exceeding those allowed in residential areas.

City of Fremont Municipal Code

- Section 18.160.010 of the City of Fremont Municipal Code (City of Fremont 2019) limits the hours when construction can occur. Section 18.160.010(a) of the City of Fremont Municipal Code identifies the following:

  > Except as modified herein, construction activity for development projects in any zoning district on any property within 500 feet of one or more residences, lodging facilities, nursing homes, or inpatient hospitals shall be limited to the weekday hours of 7:00 a.m. to 7:00 p.m. and the Saturday or holiday hours of 9:00 a.m. to 6:00 p.m., while Sunday construction is not allowed. Construction activity for projects not located within 500 feet of residences, lodging facilities, nursing homes, or inpatient hospitals shall be limited to the weekday hours of 6:00 a.m. to 10:00 p.m. and the weekend or holiday hours of 8:00 a.m. to 8:00 p.m.

- Section 18.218.050 of the City of Fremont Municipal Code establishes Standard Development Requirements to address resource protection. These requirements include measures concerning construction-related noise, including general guidance for equipment maintenance, construction hours, efforts to be as "quiet" as possible and respectful of sensitive receptors, idling, and on-site posting of contact information for noise complaints (City of Fremont 2019).

3.2.3 Environmental Setting

As described in Section 3.6, *Transportation and Circulation*, the project includes six study intersections. As described in further detail in Impact NOI-1, the major roadways that would be affected by the project include SR-84 and I-680. Because these are major roadways, it is expected that noise levels at receptors along the roadways would exceed 60 dBA L_{dn}. As described in Appendix C, for the purposes of this analysis, ambient traffic noise levels at receptors along the major roadways that could be affected by the project are assumed to exceed 60 dBA L_{dn}.

3.2.4 Impact Analysis

This section describes the environmental impacts of the project on noise and vibration. It describes the thresholds used to determine whether an impact would be significant and the methods used to evaluate the impacts.

3.2.4.1 Thresholds of Significance

State CEQA Guidelines Appendix G (14 California Code of Regulations Section 15000 et seq.) has identified the significance criteria to be considered in determining whether a project could have significant noise and vibration impacts.

An impact would be considered significant if construction or operation of the project would have any of the following consequences:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies
- Generate excessive ground-borne vibration or ground-borne noise levels
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels

3.2.4.2 Methods for Analysis

Construction

Given the level of construction activities that would occur (i.e., installation of barricades and signage with the use of hand tools, requiring approximately 1 day of work and one or two pickup trucks), a qualitative assessment was conducted for construction-related noise and vibration impacts.

Operation

For the purposes of this analysis, City of Fremont General Plan Policy 10-8.3 would apply. This policy identifies the noise levels that the project would be required to adhere to. For the purposes of this analysis, ambient traffic noise levels at receptors along major roadways are assumed to exceed 60 dBA L_{dn}; therefore, the 3 dBA L_{dn} significance threshold would apply. The impact analysis includes the project's impact on existing conditions (meaning before the temporary road closure was implemented; see Section 3.3.1, Environmental Baseline) as well as the project's impact on cumulative conditions. The project would result in a significant impact on existing conditions if noise levels at existing sensitive receivers would increase substantially (i.e., 3 dBA L_{dn} above existing traffic noise levels where noise levels exceed 60 dBA L_{dn}). The project would result in a significant cumulative noise impact if noise levels at existing sensitive receivers would increase substantially (i.e., 3 dBA L_{dn} above existing traffic noise levels where noise levels exceed 60 dBA L_{dn}) and the project would make a "cumulatively considerable" contribution to the overall increase in traffic noise. A "cumulatively considerable" contribution would be defined as an increase of 1 dBA L_{dn} or more, attributable solely to the proposed project.

A qualitative assessment of operational vibration impacts was conducted, based on the nature of operation of the project.

3.2.4.3 Impacts and Mitigation Measures

NOI-1: The project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. (Less than Significant)

Construction

Construction of the project would not require heavy construction equipment or demolition activities. Installation of the barricades and signage with hand tools would have a duration of approximately 1 day and require one or two 2 pickup trucks. Hydraulic or vibratory equipment would not be necessary.

The closest residence (and therefore closest sensitive receptor) to the project site is approximately 1,000 feet from where construction would occur. Because of the nature and very short duration of the construction that would occur, as well as the distance between sensitive receptors and construction activities, construction of the project would have a **less-than-significant impact** related to the generation of a substantial temporary increase in ambient noise levels. As a City-initiated project, the project would adhere to all construction-related noise requirements established in the general plan and municipal code.

Operation

As described in detail in Section 3.6, *Transportation and Circulation*, the permanent closure of Morrison Canyon Road (as a part of the project) would result in a change in the distribution of vehicles on roadways within the City of Fremont. Because private vehicles would no longer be able to use Morrison Canyon Road, these vehicles would use other roadways. Specifically, the closure of Morrison Canyon Road would result in increased use of SR-84 (also known as Niles Canyon Road) in the eastbound direction (166 daily trips and 63 PM peak trips) and I-680 in the eastbound direction (230 daily trips and 87 PM peak trips).

The calculation of the increase in noise relative to existing conditions was based on turning movement counts. These calculations are included in Appendix C. The increase in noise due to traffic would be approximately 0.0 to 0.1 dBA on SR-84 and approximately 0.0 to 0.3 dBA on the I-680 ramps from Mission Boulevard. These changes in noise levels would not be perceptible to the human ear and would be considerably below the 3 dBA threshold established by the City of Fremont. Therefore, operation of the proposed project would have a **less-than-significant impact** related to the generation of a substantial permanent increase in ambient noise levels.

Cumulative traffic volumes and cumulative-plus-project traffic volumes were compared with data for existing traffic volumes to determine if either cumulative condition would result in substantially increased noise levels. These calculations are included in Appendix C. The increase in cumulative noise due to project traffic rerouting to other roadways would be approximately 0.0 to 0.1 dBA on SR-84 and approximately 0.0 to 0.2 dBA on the I-680 ramps from Mission Boulevard. These changes in noise levels would not be perceptible to the human ear and would be considerably below the 1 dBA threshold. Therefore, operation of the project would have a **less-than-significant impact** related to the generation of a substantial permanent cumulative increase in ambient noise levels. Impact NOI-1 is, therefore, **less than significant** because the project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.

NOI-2: The project would not generate excessive ground-borne vibration or ground-borne noise levels. (Less than Significant)

Construction of the project would involve the use of hand tools and one or two pickup trucks for approximately 1 day. The closest residence to the project site is approximately 1,000 feet from where construction would occur. Construction would not generate excessive ground-borne vibration or ground-borne noise levels because no vibratory equipment would be used during construction. Therefore, the construction impact related to ground-borne vibration or ground-borne noise levels would be **less than significant**.

Operation of the project would result in a redistribution of vehicle trips to other roadways. Vehicles do not represent substantial sources of vibration; therefore, operation of the project would not generate excessive ground-borne vibration or ground-borne noise levels. Therefore, the operational impact would be **less than significant**. Impact NOI-2 is, therefore, **less than significant**.

NOI-3: For a project located in the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, the project would not expose people residing or working in the project area to excessive noise levels. (No Impact)

The closest public use airports to the proposed project are Hayward Executive Airport and Livermore Municipal Airport, both located more than 10 miles from the project site. The proposed project is not within the airport influence area of either facility, as identified in their respective Airport Land Use Compatibility Plans (Alameda County Community Development Agency 2012a and 2012b). The proposed project is not within an airport land use plan area or within 2 miles of a public airport or public use airport. Therefore, Impact NOI-3 would have **no impact** regarding exposing people residing or working in the project area to excessive noise levels.

3.2.5 References

Alameda County Community Development Agency. 2012a. *Hayward Executive Airport: Airport Land Use Compatibility Plan.* Available: https://www.acgov.org/cda/planning/generalplans/documents/HWD_ALUCP_082012_FULL.pdf. Accessed May 22, 2019.

Alameda County Community Development Agency. 2012b. *Livermore Municipal Airport: Airport Land Use Compatibility Plan.* Available: https://www.acgov.org/cda/planning/generalplans/documents/LVK_ALUCP_082012_FULL.pdf. Accessed May 22, 2019.

California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September.

City of Fremont. 2011. *City of Fremont General Plan.* Safety Element. Adopted: December 2011. Available: https://www.fremont.gov/DocumentCenter/View/4674/10-Safety?bidId=. Accessed November 18. 2019.

City of Fremont. 2019. Municipal Code. Title 18, Planning and Zoning. Current through Ordinance 12-2019, passed November 5, 2019. Available: https://www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18218.html#18.218.050. Accessed February 27, 2020.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment.

3.3 Greenhouse Gases

3.3.1 Introduction

This section describes the environmental and regulatory setting for GHG emissions and climate change. It also describes impacts from GHG emissions that would result from implementation of the project.

3.3.2 Regulatory Setting

3.3.2.1 Federal

There is currently no overarching federal law specifically related to climate change or the reduction of GHG emissions.

3.3.2.2 State

California has adopted statewide legislation to address various aspects of climate change as well as GHG emissions mitigation. Much of this legislation establishes a broad framework for the state's long-term GHG emissions reduction and climate change adaptation program. The governor of California has also issued several executive orders (EOs) related to the state's evolving climate change policy. Of particular importance are Assembly Bill (AB) 32 and Senate Bill (SB) 32, which outline the state's GHG emissions reduction goals (i.e., 1990 emissions levels by 2020 and 40 percent below 1990 emissions levels by 2030).

In the absence of federal regulations, control of GHGs is generally regulated at the state level and typically approached by setting emissions reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans. Summaries of key policies, legal cases, regulations, and legislation at the state level that are relevant to the project are provided below.

Fuel Economy Standards

Known as *Pavley I*, the AB 1493 standards were the nation's first GHG standards for automobiles. AB 1493 required CARB to adopt vehicle standards that would lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as *Pavley II*, now referred to as the *Advanced Clean Cars* measure) has been proposed for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon by 2025.

On August 2, 2018, the National Highway Traffic Safety Administration (NHTSA) and EPA proposed to amend the fuel efficiency standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026 by maintaining the current model year 2020 standards through 2026 (Safer Affordable Fuel-Efficient [SAFE] Vehicles Rule). On September 19, 2019, EPA and NHTSA issued a final action on the One National Program Rule, which is considered part 1 of the SAFE Vehicles Rule and a precursor to future proposed fuel efficiency standards. The One National Program Rule enables EPA/NHTSA to provide nationwide uniform fuel economy and

GHG vehicle standards by (1) clarifying that federal law preempts state and local tailpipe GHG standards, (2) affirming NHTSA's statutory authority to set nationally applicable fuel economy standards, and (3) withdrawing California's CAA preemption waiver to set state-specific standards.

EPA and NHTSA published their decisions to withdraw California's waiver and finalize regulatory text related to the preemption on September 27, 2019 (84 Fed. Reg. 51310). The agencies also announced that they will publish the second part of the SAFE Vehicles Rule (i.e., the standards) in October 2019. California, 22 other states, the District of Columbia, and two cities filed suit against the proposed One National Program Rule on September 20, 2019 (*California et al. v. United States Department of Transportation et al.,* 1:19-cv-02826). The lawsuit requests "permanent injunction prohibiting defendants from implementing or relying on the preemption regulation." The fate of the One National Program Rule and SAFE Vehicles Rule remains uncertain in the face of pending legal deliberations.

Executive Order Reduction Targets

In 2005, EO S-3-05 established goals to reduce California's GHG emissions to (1) 2000 levels by 2010 (achieved), (2) 1990 levels by 2020, and (3) 80 percent below the 1990 levels by 2050. In 2018, EO B-55-18 established a new state goal to achieve carbon neutrality as soon as possible (no later than 2045) and achieve and maintain net negative emissions thereafter. Executive orders are binding on state government agencies but are not legally binding on cities and counties or on private development.

Assembly Bill 32—California Global Warming Solutions Act (2006)

AB 32 codified the state's GHG emissions target by requiring the state's global warming emissions to be reduced to 1990 levels by 2020. Subsequent to adoption of AB 32, CARB, the California Energy Commission (CEC), the California Public Utilities commission (CPUC), and the California Building Standards Commission began developing regulations to help the state meet the goals of AB 32. The AB 32 Scoping Plan identifies specific measures to reduce GHG emissions to 1990 levels by 2020 and requires CARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. Specifically, the AB 32 Scoping Plan articulates a key role for local governments, recommending that they establish GHG reduction goals for both municipal operations and the community consistent with those of the state.

Executive Order S-01-07—Low-Carbon Fuel Standard (2007)

EO S-01-07 essentially mandates that (1) a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and (2) a low-carbon fuel standard (LCFS) for transportation fuels be established in California. CARB approved the LCFS on April 23, 2009; the regulation became effective on January 12, 2010. However, the U.S. District Court for the Eastern District of California ruled in December 2011 that the LCFS violates the Commerce Clause of the U.S. Constitution. CARB appealed this ruling in 2012, and on September 18, 2013, the Ninth U.S. Circuit Court of Appeals upheld the LCFS, ruling that the program does not violate the Commerce Clause and remanded the case to the Eastern District.

Senate Bill SB 375 (Steinberg) (2008)

SB 375 requires Metropolitan Planning Organizations to incorporate a sustainable communities strategy (SCS) in their regional transportation plan (RTP) to achieve the GHG emissions reduction targets set by CARB, which updated the regional targets in March 2018. SB 375 also includes

provisions for streamlined CEQA review for some infill projects, such as transit-oriented development. However, those provisions will not become effective until an SCS is adopted. SB 375 requires the Association of Bay Area Governments and Metropolitan Transportation Commission (ABAG and MTC, respectively) to identify strategies to reduce per capita GHG emissions from passenger vehicles by approximately 19 percent by 2035, compared with base year 2005. ABAG and MTC prepared their SCS jointly as part of Plan Bay Area 2040.

Senate Bills 1078, 107, and 2—Renewables Portfolio Standard

SBs 1078 (2002), 107 (2006) and 2 (2011), California's Renewables Portfolio Standard (RPS), obligate investor-owned utilities, energy service providers, and community choice aggregators to procure additional retail sales each year from eligible renewable sources, with the long-range target of procuring 33 percent of retail sales from renewable resources by 2020. The CPUC and CEC are jointly responsible for implementing the program.

California Energy Efficiency Standards for Residential and Nonresidential Buildings—Green Building Code (2011), Title 24 Updates (2014, 2017)

California has adopted aggressive energy efficiency standards for new buildings and is continuously updating the standards. In 2008, the California Building Standards Commission adopted the nation's first "green" building standards, which included standards for many aspects of the built environment apart from energy efficiency. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (24 California Code of Regulations). Part 11 established voluntary standards that became mandatory under the 2010 edition of the code. These involved sustainable site development, energy efficiency (in excess of California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The current energy efficiency standards were adopted in 2016 and took effect on January 1, 2017. The standards are to be updated periodically.

Senate Bill 350—De Leon (Clean Energy and Pollution Reduction Act of 2015) (2015)

SB 350 was approved by the state legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions require the following by 2030: (1) an RPS of 50 percent and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of the CPUC and CEC.

Senate Bill 32 (2016)

SB 32 (2016) requires CARB to ensure that statewide GHG emissions are reduced to at least 40 percent below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. CARB adopted the 2017 Climate Change Scoping Plan in November 2017 to meet the GHG emissions reduction requirement set forth in SB 32. It proposes continuing the major programs of the previous scoping plan, which call for cap-and-trade regulation; the LCFS; more efficient cars, trucks, and freight movement; the RPS; and reduced methane (CH_4) emissions from agricultural and other wastes. The scoping plan also addresses, for the first time, GHG emissions from natural and working lands in California.

3.3.2.3 Regional and Local

Bay Area Air Quality Management District

As discussed in Section 3.1, *Air Quality*, the BAAQMD is responsible for air quality planning within the SFBAAB, including projects in the City of Fremont. The BAAQMD has adopted advisory emissions thresholds to assist CEQA lead agencies in determining the level of significance of a project's GHG emissions. The BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level at which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions and move us toward climate stabilization (Bay Area Air Quality Management District 2017b).

City of Fremont Climate Action Plan

The City of Fremont adopted the Climate Action Plan on November 13, 2012. The overarching goal of the Climate Action Plan is to identify specific and achievable actions for reducing GHG emissions in Fremont. The Climate Action Plan includes emissions reduction actions, which are intended to help the community and the City of Fremont make positive progress toward achieving the City Council's adopted emissions reduction goal. In 2008, the City Council adopted the goal of reducing GHG emissions by 25 percent, from a 2005 baseline, by 2020. One of the strategies identified in the Climate Action Plan is to reduce vehicle miles traveled (VMT) (see Chapter 2, Strategy 3, of the Climate Action Plan) (City of Fremont 2012).

City of Fremont General Plan

The City of Fremont General Plan, adopted in 2011, includes goals, policies, and implementation measures related to the reduction of GHG emissions (City of Fremont 2011). The goal in the general plan (Goal 7-8) is to reduce GHG emissions by 25 percent, from 2005 levels, by 2020. This goal is aspirational and not meant to supersede AB32 targets as a standard for project review.

City of Fremont Municipal Code

The City of Fremont has established Standard Development Requirements (18.218.050) to address resource protection. These requirements apply to construction-related emissions of air pollutants in recognition that the State is focusing on the regulation and reduction of greenhouse gas (GHG) emissions (City of Fremont, 2019).

3.3.3 Environmental Setting

3.3.3.1 Global Climate Change

The process known as the *greenhouse effect* keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which is re-emitted toward the surface by GHGs. Human activities that generate GHGs increase the amount of infrared radiation absorbed by the atmosphere, thereby enhancing the greenhouse effect and amplifying the warming of Earth.

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution (Intergovernmental Panel on Climate Change 2007). Rising atmospheric concentrations of GHGs in excess of natural levels result in increasing global surface temperatures—a process commonly referred to as global warming. Higher global surface temperatures, in turn, result in changes to Earth's climate system, including increased ocean temperatures and acidity, reduced sea ice, variable precipitation, and increased frequencies and intensities for extreme weather events (Intergovernmental Panel on Climate Change 2018). Large-scale changes to Earth's system are collectively referred to as *climate change*.

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that human-induced warming reached approximately 1°C above pre-industrial levels in 2017, increasing at 0.2°C per decade. Under the current nationally determined contributions of mitigation from each country until 2030, global warming is expected to rise to 3°C by 2100, with warming to continue afterward (Intergovernmental Panel on Climate Change 2018). Large increases in global temperatures could have substantial adverse effects on the natural and human environments worldwide and in California.

3.3.3.2 Principal Greenhouse Gases

The principal anthropogenic (human-made) GHGs contributing to global warming are carbon dioxide (CO_2), CH_4, nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons. Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic sources.

The primary GHGs of concern associated with the proposed project are CO_2, CH_4, and N_2O. The principal characteristics of these pollutants are discussed below.

CO_2 enters the atmosphere through fossil fuel (oil, natural gas, and coal) combustion, solid waste decomposition, plant and animal respiration, and chemical reactions (e.g., from cement manufacturing). CO_2 is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.

CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal solid waste landfills.

N_2O is emitted during agricultural and industrial activities as well as the combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method for comparing GHG emissions is the global warming potential (GWP) methodology defined in IPCC reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of a carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2 (CO_2 has a global warming potential of 1 by definition).

Table 3.3-1 lists the global warming potential of CO_2, CH_4, and N_2O and their lifetimes.

Table 3.3-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)
CO_2	1	50–200
CH_4	25	9–15
N_2O	298	121

Source: California Air Resources Board 2018.
CO_2 = carbon dioxide
CH_4 = methane
N_2O = nitrous oxide

All GWP figures used for CARB's GHG inventory and assessing attainment of the state's 2020 and 2030 reduction targets are considered over a 100-year timeframe (as shown in Table 3.3-1). However, CARB recognizes the importance of short-lived climate pollutants as well as the need to reduce such emissions to achieve the state's overall climate change goals. Short-lived climate pollutants have atmospheric lifetimes on the order of a few days to a few decades. Their relative climate-forcing impacts, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO_2 (California Air Resources Board 2017). Because of their short lifespan and warming impact, short-lived climate pollutants are measured in terms of CO_2e, using a 20-year time period. The use of GWP data with a time horizon of 20 years captures the importance of the short-lived climate pollutants and gives a better perspective on the speed at which emission controls affect the atmosphere relative to CO_2 emissions controls. The Short-Lived Climate Pollutant Reduction Strategy addresses issues related to CH_4, hydrofluorocarbon gases, and anthropogenic black carbon. CH_4 has lifetime of 12 years and a 20-year GWP of 72. Hydrofluorocarbon gases have lifetimes of 1.4 to 52 years and a 20-year GWP of 437 to 6,350. Anthropogenic black carbon has a lifetime of a few days to weeks and a 20-year GWP of 3,200 (California Air Resources Board 2017).

3.3.3.3 Greenhouse Gas Emissions Inventories

A GHG inventory is a quantification of all GHG emissions and sinks[1] within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources. Table 3.3-2 outlines the most recent global, national, statewide, and local GHG inventories to help contextualize the magnitude of potential project-related emissions.

[1] A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

Table 3.3-2. Global, National, State, and Regional Greenhouse Gas Emission Inventories

Emissions Inventory	CO_2e (metric tons)
2010 IPCC Global GHG Emissions Inventory	52,000,000,000
2017 EPA National GHG Emissions Inventory	6,472,300,000
2017 CARB State GHG Emissions Inventory	424,100,000
2015 BAAQMD GHG Emissions Inventory	85,000,000

Sources: Intergovernmental Panel on Climate Change 2014; U.S. Environmental Protection Agency 2019; California Air Resources Board 2019; Bay Area Air Quality Management District 2017a.

As noted in Appendix B, GHG emissions generated by vehicles on Morrison Canyon Road under no-project conditions (i.e., returning Morrison Canyon Road to conditions prior to the November 2018 closure) would total 1,377 pounds per day, which is equivalent to approximately 200 metric tons per year.

3.3.3.4 Potential Effects of Climate Change

Climate change is a complex process that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change will result in sea-level rise (both globally and regionally) as well as changes in climate and rainfall, among other effects, there remains uncertainty about characterizing precise local climate characteristics and predicting precisely how various ecological and social systems will react to changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change is expected to occur in the future, although the precise extent will take further research to define. Specifically, significant impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures (California Natural Resources Agency 2018)
- Rising average global sea levels, due primarily to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets (Intergovernmental Panel on Climate Change 2018)
- Changing weather patterns, including changes in precipitation, ocean salinity, and wind patterns, and more energetic episodes of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and tropical cyclones (Intergovernmental Panel on Climate Change 2013)
- Declining Sierra Nevada snowpack levels, which account for approximately half of the surface water storage in California (declines of 70 percent to as much as 90 percent over the next 100 years) (California Natural Resources Agency 2018)
- Increases in the number of days that would be conducive to ozone formation (e.g., clear days with intense sun light), with increase of 25 to 85 percent (depending on the future temperature scenario) by the end of the 21st century in high ozone areas, including Southern California (California Natural Resources Agency 2018)

- Increases in the potential for erosion along California's coastline and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level (California Natural Resources Agency 2018)

Climate change could exacerbate the severity of drought conditions in California such that durations and intensities are amplified, ultimately increasing the risk of wildfires and consequential damage (California Natural Resources Agency 2018). Under changing climate conditions, agricultural operations are projected to experience lower crop yields due to extreme heat waves, heat stress, and increased water needs for crops and livestock (particularly during dry and warm years) as well as new and changing pest and disease threats (California Natural Resources Agency 2018). The impacts of climate change, such as increased heat-related events, droughts, and wildfires, pose direct and indirect risks to public health because people will experience earlier deaths and worsening illnesses. Indirect impacts on public health include increases in vector-borne diseases, stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement (California Natural Resources Agency 2018).

3.3.4 Impact Analysis

This section describes the environmental impacts of the proposed project related to GHG emissions. It describes the thresholds used to determine whether an impact would be significant and the methods used to evaluate the impacts.

3.3.4.1 Thresholds of Significance

State CEQA Guidelines Appendix G (14 California Code of Regulations Section 15000 et seq.) has identified significance criteria to be considered in determining whether a project could have significant GHG impacts.

An impact would be considered significant if construction or operation of the project would have any of the following consequences:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs.

3.3.4.2 Methods for Analysis

Given the limited level of construction that would occur (i.e., installation of barricades and signage with the use of hand tools, requiring approximately 1 day of work and one or two pickup trucks), a qualitative assessment was conducted for construction-related GHG emissions impacts. Effects from operation of the project were evaluated by comparing VMT before and after implementation of the project. It is noted that "before" conditions refer to the existing conditions before implementation of the temporary road closure, as further detailed in Chapter 3, subsection 3.3.1, Environmental Baseline.

3.3.4.3 Impacts and Mitigation Measures

Impact GHG-1: The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. (Less than Significant)

Construction

Construction of the project would involve the use of hand tools and one or two pickup trucks for approximately 1 day. GHG emissions would be limited to those generated from the use of two pickup trucks for 1 workday, which would be expected to generate up to 500 pounds of CO_2e (Reyff pers. comm.). The BAAQMD has not established a quantitative threshold for assessing construction-related GHG emissions. Rather, the air district recommends evaluating whether construction activities would conflict with statewide emission reduction goals. Because construction would be limited to 1 day and the project would have the overall effect of reducing GHG emissions by reducing VMT, construction emissions would not conflict with overall statewide emissions reduction goals. Therefore, construction of the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impact GHG-1 would be **less than significant** during project construction.

Operation

As described in Section 3.7.10, *Population and Housing*, the project would not result in direct or indirect population growth; therefore, operation of the project is not expected to generate any new vehicle trips that could result in GHG emissions. Permanent closure of Morrison Canyon Road (as a part of the project) would, however, result in a change in the distribution of vehicles on roadways in the City of Fremont. As described in detail in Section 3.6, *Transportation and Circulation*, and summarized in Appendix D, operation of the project would result in an overall reduction in VMT (i.e., from 3,219 miles per day under the no-project condition to 2,931 miles per day with implementation of the project). Therefore, it is expected that GHG emissions would likewise decrease with the implementation of the project. Operation of the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impact GHG-1 would be **less than significant** during project operation.

Impact GHG-2: The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. (Less than Significant)

The City of Fremont Climate Action Plan identifies actions to help the City meet its goal of reducing GHG emissions. This includes strategies to reduce GHG emissions associated with vehicular traffic, including strategies to reduce VMT (City of Fremont 2012). The proposed project would reduce VMT and therefore would be consistent with the strategies identified in the Climate Action Plan. Because the project would result in an overall reduction in GHG emissions, the proposed project would not conflict with the City of Fremont Climate Action Plan, the applicable plan adopted for the purpose of reducing emissions of GHGs. Impact GHG-2 would be **less than significant.**

3.3.5 References

Bay Area Air Quality Management District. 2017a. *Spare the Air, Cool the Climate*, *the Final 2017 Clean Air Plan*. Adopted April 19. Available: http://www.baaqmd.gov/~/media/files/planning-and-

research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf. Accessed: December 30, 2019.

Bay Area Air Quality Management District. 2017b. *California Environmental Quality Act Air Quality Guidelines.* May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: December 30, 2019.

California Air Resources Board. 2017. *Short-Lived Climate Pollutant Reduction Strategy*. Available: https://ww2.arb.ca.gov/sites/default/files/2018-12/final_slcp_report%20Final%202017.pdf. Accessed: December 30, 2019.

California Air Resources Board. 2018. *Global Warming Potentials*. Last reviewed: June 22. Available: https://www.arb.ca.gov/cc/inventory/background/gwp.htm#transition. Accessed: March 26, 2019.

California Air Resources Board. 2019. *California Greenhouse Gas Emission Inventory – 2018 Edition*. Last Revised: August 12, 2019. Available: https://ww3.arb.ca.gov/cc/inventory/data/data.htm. Accessed: December 30, 2019.

California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment Statewide Summary Report*. Available: http://www.climateassessment.ca.gov/state/docs/20190116-StatewideSummary.pdf. Accessed: December 30, 2019.

City of Fremont. 2011. *City of Fremont General Plan*. Conservation Element. Adopted: December 2011. Available: https://fremont.gov/DocumentCenter/View/4671/07-Conservation?bidId=. Accessed: December 30, 2019.

City of Fremont. 2012. *City of Fremont Climate Action Plan*. November. Available: http://www.fremont.gov/DocumentCenter/View/19837/Climate-Action-Plan?bidId=. Accessed: December 30, 2019.

City of Fremont. 2019. Fremont Municipal Code. Standard Development Requirements. Current through Ordinance 12-2019, passed November 5, 2019. Available: https://www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18218.html#18.218.050. Accessed February 27, 2020.

Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis.* Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Available: https://www.ipcc.ch/site/assets/uploads/2018/05/ar4_wg1_full_report-1.pdf. Accessed: December 30, 2019.

Intergovernmental Panel on Climate Change. 2013. *Climate Change 2013: The Physical Science Basis*. Available: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf. Accessed: December 30, 2019.

Intergovernmental Panel on Climate Change. 2014. *Climate Change Synthesis Report*. Available: https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf. Accessed: December 30, 2019.

Intergovernmental Panel on Climate Change. 2018. *Global Warming of 1.5°C.* Contribution of Working Group I, II, and III. Available: https://www.ipcc.ch/sr15/. Accessed: December 30, 2019.

U.S. Environmental Protection Agency. 2019. *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990–2017*. Available: https://www.epa.gov/sites/production/files/2019-02/documents/us-ghg-inventory-2019-main-text.pdf. Accessed: December 30, 2019.

Personal Communications

Reyff, James. Illingworth & Rodkin, Inc., Cotati, CA. January 3, 2020—email correspondence with Leo Mena of ICF.

This page was intentionally left blank.

3.4 Land Use and Planning

3.4.1 Introduction

This section describes the regulatory and environmental setting with respect to land use and planning for both the proposed project and the surrounding vicinity. It also describes potential impacts related to land use and planning that could occur with project implementation as well as mitigation measures that, where feasible, would minimize such impacts.

3.4.2 Regulatory Setting

This section summarizes the federal, state, and regional regulations pertaining to land use and planning that are applicable to the proposed project.

3.4.2.1 Federal

There are no federal regulations related to land use and planning.

3.4.2.2 State

General Plans

The California State Planning and Zoning Law delegates most of the state's local land use and development decisions to cities and counties. California Government Code Section 65301 requires every city and county to adopt a general plan. General plans lay out the pattern of future residential, commercial, industrial, agricultural, open space, public, and recreational land uses within a community. Local jurisdictions implement their general plans by adopting zoning, subdivision, grading, and other ordinances. Zoning identifies the specific types of land uses or forms of development that may be allowed on a given site and establishes the regulations that will be imposed on new development. Zoning regulations vary from jurisdiction to jurisdiction. Typical zoning regulations address permissible types of uses, the density and size of structures, the siting of structures relative to parcel boundaries, architectural design, the percentage of building coverage allowed relative to the overall square footage of a parcel, and the general intended character of the community. The City of Fremont General Plan is described in greater detail below under Section 3.4.2.3, Regional and Local.

Specific, Precise, Area, and Community Plans

A specific plan is a tool for the systematic implementation of a city or county general plan. A specific plan effectively establishes a link between implementing policies of the general plan and the individual development proposals in a defined area. Precise plans are flexible documents adopted by some California cities to facilitate the use of innovative or unconventional urban planning techniques. Area plans cover specific subareas of a community. Within these plans, general policies contained in the general plan elements are made more precise because the policies relate to specific parts of the jurisdiction.

The City of Fremont is separated into numerous communities, based on character, geography, and other qualities. The City of Fremont General Plan includes both a Community Character Element and a Community Plan Element, which describe policies specific to each community (City of Fremont 2011). These policies are described in greater detail below under Section 3.4.2.3, Regional and Local.

3.4.2.3 Regional and Local

CEQA requires that an EIR consider whether a proposed project would conflict with a land use plan, policy, or regulation, including, but not limited to, general plans, specific plans, or zoning ordinances, that was adopted for the purpose of avoiding or mitigating an environmental effect. The plans and policies described below were reviewed to assess whether the project would be consistent with the general plans of relevant jurisdictions. Inconsistency with regional plans and local general plan policies is not necessarily considered a significant impact under CEQA, unless it is related to a physical impact on the environment that is significant in its own right.

City of Fremont General Plan

The City of Fremont General Plan establishes short- and long-term planning goals for the 25 years following its official adoption on December 13, 2011. The general plan both defines the City's vision and establishes guiding principles to direct future development and planning actions through adherence to identified goals and policies. The general plan is comprised of 11 individual chapters or "elements" (i.e., Sustainability, Land Use and Open Space, Circulation, Community Character, Housing [updated in 2015 and extending through 2023], Economic Development, Conservation, Parks and Recreation, Public Facilities, Safety and Noise, and Community Plans) that contain guiding principles related to their respective focus areas. The general plan also contains an Implementation Element, which describes how the guiding principles and associated goals and policies from the previous 11 elements should be incorporated into planning efforts.

The Land Use and Open Space Element of the general plan establishes goals and policies to guide future land use and development decisions citywide. It also identifies individual communities throughout the City; the specific planning goals of each are described in the Community Character and Community Plan elements. General plan land use goals guide planning decisions, including decisions regarding open space preservation, land use changes over time, and land use compatibility. The Community Character and Community Plan elements of the general plan identify long-term design and planning strategies specific to individual community planning areas.

The proposed project is in the Hill Area, an Open Space–designated community with specific guiding principles, goals, and policies, which are intended to preserve the community's rural character by limiting development. As described further in other sections of this EIR, the Mobility Element of the General Plan identifies Morrison Canyon Road as a "local street," while the Parks and Recreation Element indicates Morrison Canyon Road as an "existing/planned recreational trail."

The following guiding principles, goals, and policies regarding land use and planning from the general plan pertain to the proposed project:

Chapter 2: Land Use and Open Space Elements

> **Policy 2-1.3: Maintain Fremont's Open Space "Frame."** Conserve the unique ecological characteristics of the Fremont Hills and San Francisco Bay shoreline and wetlands and recognize

the contribution of these features to Fremont's identity and livability. Future land use decisions should ensure the long-term protection of these areas as open space.

Policy 2-2.2: Integrating Land Use and Transportation Choices. Ensure that land use decisions consider the characteristics of the transportation network, including road capacity, the quality of the streetscape, and the availability of public transportation and other modes of travel.

Policy 2-6.2: Hill Area Initiatives. Adhere to the Fremont provisions of the 1981 voter-approved Measure A Initiative and the 2002 voter-approved Measure T Initiative, both of which are officially part of the Fremont Municipal Code, when making land use decisions for the Fremont Hill Area. These provisions impose more restrictive requirements on Hill Area development than would otherwise apply in designated open space areas.

Policy 2-6.5: Linear Open Space Connections. Utilize open space, including parks, flood control channels, greenbelts, easements, and other open areas, to connect the city, provide car-free corridors for pedestrians and bicyclists, and tie together Fremont's neighborhoods, centers, and employment districts.

Chapter 4: Community Character Element

Policy 4-1.10: Neighborhood Barriers. Seek urban design, planning, and capital improvement solutions for minimizing physical barriers that divide the community such as railroad tracks, freeways, wide arterials, and flood control channels. Ensure that land use decisions and transportation projects do not divide neighborhoods or create unnecessary barriers within established neighborhoods.

Projects that would create physical divides within or between neighborhoods are discouraged. While freeways, railroads, and similar features create clear edges and help define neighborhoods, they may also hinder the sense of unity and connectivity that Fremont desires for its future. The City encourages projects that "knit" Fremont together such as greenways and pedestrian bridges over freeways.

Policy 4-2.2: Connectivity. Improve the ability to travel through Fremont and between Fremont's neighborhoods on foot or by bicycle. Safe, comfortable sidewalks, bike lanes, trails, and paths should be incorporated for pedestrians and cyclists so that neighborhoods are conveniently connected to nearby community facilities, services, and shopping areas.

Policy 4-2.4: Pedestrian and Bicycle Trails. Create and maintain a network of trail corridors that connect Fremont to adjacent cities, link the Hill Area to the Baylands, and provide a convenient means of non-auto travel from neighborhood to neighborhood. Trails should be designed for practical transportation across the city, not solely for recreational use.

Chapter 7: Conservation

Policy 7-1.3: Preservation of Hill Areas. Preserve and protect the Hill Area woodlands and vegetative areas, especially along the ridgeline, in canyons and on vegetated north-facing slopes.

> **Implementation 7-1.3.A: Hillside Initiatives.** Continue to implement the Hillside Initiative (Measure A-1981) and the Hill Area Initiative (Measure T-2002) and enforce regulations related to Hill Area development.

Chapter 8: Parks and Recreation

Policy 8-1.5: Linear Park. Acquire and develop linear trail parks that serve many functions, including recreational opportunities, alternative transportation routes, aesthetic enhancements, and the re-use of abandoned or underutilized transportation, utility, or other corridors.

Implementation 8-1.5.A: Land Corridors for Linear Parks. Pursue acquisition of abandoned or underutilized land corridors for development into linear parks, consistent with the bicycle and pedestrian master plans and with the goal of providing safe and convenient recreational opportunities and mobility alternatives to cyclists and pedestrians.

Community Planning Areas

The General Plan identifies 11 different **community planning areas.** Each supports specific land use and zoning designations, which are intended to suit their intended community character. In some communities, zoning designations encourage intensive commercial, residential, or industrial development, while other communities have development restrictions because of topographic conditions and/or open space preservation goals.

Middle Morrison Canyon Road is located within the **Hill Area**. Existing and allowable land uses in the Hill Area involve primarily rangeland and grazing land; the steep topography, with limited roadway access, is considered ill-suited for substantial urban development.

The Hill Area within the project vicinity is divided into two primary land use designations: (1) Open Space-Hill Face, which includes all areas west of the ridgeline to the toe of the hill, and (2) Open Space-Hill (Beyond Ridgeline), which includes all areas east of the ridgeline until the unincorporated Alameda County boundary.

In addition, the General Plan notes three subareas of the Hill Area: Northern, Central, and Southern Hill Areas. All three subsections, in combination with other rural areas bordering the City, form an open space frame that surrounds the City.

The proposed project would occur entirely within the *Central* Hill Area, although planning policies within all three areas are similar, with the goal of preserving the Hill Area's rural open space character.

The following land use designations, as defined by Measure A and Measure T, which are described in detail above, are present within the Central Hill Area:

- Open Space-Hill Face (Toe of the Hill) (O-S HF)
- Open Space-Hill (Beyond Ridgeline) (O-S HL)
- Open Space-Hillside (Measure A) (O-S HS)

The westernmost road closure point under the proposed project, the intersection of Morrison Canyon Road and Ridge Terrace, is at the boundary between the Open Space-Hill Face and Open Space-Hill designations. The remainder of the project area is within Open Space-Hill lands.

Hill Area Initiatives (Measure A and Measure T)

Fremont's hills have been used as grazing and ranchland for the last two centuries. Steep terrain, geologic instability, and limited access make the area poorly suited for urbanized development. During the 20th Century, a number of rock quarries operated in the hills and a limited amount of

agriculture occurred on the lower slopes. Most of the area remained undeveloped open space, with little change in its visual profile. By the 1960s and 1970s, modern construction and grading techniques led to increasing development pressure in the hills. There was concern that the natural boundary that defined the edge of Fremont's urbanized area would disappear and that development would ruin hillside views. This concern led to the Hillside Initiative of 1981 (Measure A) which established the City's policy that Fremont's hills should remain open space or very low density residential.

Measure A formally amended the text of the General Plan to add definitions of the "Hill Area," "Ridgeline," "Toe of the Hill," and "Hill Face." The intent of the ordinance was to protect the agricultural, recreational, and low-density character of the Hill Area and provide special protection to visually sensitive features such as the western hill face and ridgeline. Measure A established the Hillside Open Space designation, which applies to rural parcels generally lying east of Mission Boulevard or I-680, up to the toe of the hill. The toe of the hill (TOH) is the line along the base of the hills where the natural grade first becomes 20 percent or more.

The Hillside Open Space designation allows passive outdoor recreation, agriculture, and rural residential development. Future residential development may not exceed one unit per acre for unconstrained lands and one unit per four (4) or more acres for constrained lands (such as slopes over 20 percent).

In 2002, a second ballot measure, Measure T, was approved by voters, expanding the scope of Measure A. Measure T applies to Fremont's eastern Hill Area and includes all land above the TOH, extending south and east to Alameda Creek and Calaveras Creek. The area defined by Measure T is further identified as Hill Face Open Space and Hill Open Space in the General Plan Land Use Diagram.

The Hill Face Open Space designation applies to land between the TOH and the Ridgeline. The Ridgeline is a visual feature along the high point of the Hills established from a point of origin 1.5 miles away. Very low density uses may be allowed at a density of one unit per 20 acres for existing parcels. Outdoor recreation and limited public and quasi-public uses are allowed. Grazing and other agricultural activities are also allowed.

The Hill Open Space designation applies to land within the Hill Area beyond the Ridgeline and outside of the Hill Face. This land is primarily located east of the Ridgeline. Very low-density residential uses may be allowed at a density of one unit per 20 acres for existing parcels and one unit per 100 acres for any future annexed parcels. Limited outdoor recreation and other agricultural activities are also allowed.

Mission San Jose Plan Area

The Mission San Jose Plan Area is a diverse community planning area, bisected by I-680 in the east/west direction and Mission Boulevard in the north/south direction. The planning area contains residential districts of varying densities, commercial districts, open spaces (parks) outside the Hill Area, and public facilities.

The proposed project is not within this planning area. However, as described in Section 3.6, Transportation and Circulation, much of the automobile traffic that currently uses Morrison Canyon Road is cut-through traffic traveling to or from either Mission Boulevard or I-680, making it a possibility that vehicular trips that would no longer have access to Morrison Canyon Road would potentially reroute to roadways within Mission San Jose Planning Area.

Neighborhoods

In addition to the community planning areas, the General Plan also acknowledges the City's many neighborhoods, some of which span multiple planning areas.

The project area is bordered on the north by the Canyon Heights/Vallejo Mills/Niles Crest neighborhood, which also includes some residential areas between Mission Boulevard and the toe of the hill, and on the south by the Kimber/Gomes neighborhood, which extends westward across Mission Boulevard.

Zoning

The City of Fremont Municipal Code identifies the entirety of the project area as being within an Open Space District (City of Fremont 2015). Section 18.55.010 of the municipal code defines the purpose of the Open Space District as follows:

> Permit limited but reasonable use of open lands while protecting the public health, safety, and welfare from the dangers of seismic hazards and unstable soils; preserve the topography of the city that shapes it and gives it its identity; allow land to be used for agricultural production in its natural or as near-natural state as possible; coordinate with and carry out regional, county, and city open space plans; and, where permitted, encourage the clustering of dwelling units in order to preserve and enhance the remainder of open space lands as a limited and valuable resource.

3.4.3 Environmental Setting

Morrison Canyon Road is a one lane, bi-directional, roadway located in the northeastern portion of the City. As discussed below and in Chapter 3, subsection 3.3.1, of this draft EIR, the road has been temporarily closed since November 2018. Morrison Canyon Road touches several City neighborhoods, originating in the topographically flat Cherry/Guardino neighborhood and traversing between the Canyon Heights/Vallejo Mills/Niles Crest and Kimber Gomes neighborhoods through an area of increasing rugged topography where it intersects with Vargas Road.

In the project area, Morrison Canyon Road is a winding road, approximately 9 feet wide at its narrowest point. Some sections include an asphalt berm to separate the road from a steep embankment. The road cuts through often unstable hillside slopes that drop several hundred feet to Morrison Creek (part of the Mission Creek watershed).

Historically, Morrison Canyon Road was a dirt/gravel trail providing limited access to upper Ridge Terrace and rural hillside properties north of its intersection with Vargas Road. In more recent years, Morrison Canyon Road has been successively paved and has received chip seal maintenance treatments over the years, as necessary. The road continues to receive regular maintenance attention due to hillside/roadway sloughing. Because the narrowest parts of the roadway are along steep hillsides and heavily vegetated areas, City maintenance efforts have also included clearance of landslides, brush, and trees obstructing the roadway.

For purposes of this draft EIR's analysis, although the City implemented a temporary closure of middle Morrison Canyon Road in November 2018, the City has chosen to evaluate land use effects from a baseline prior to the November 2018 closure. In other words, the analysis in this environmental document assumes a baseline environmental condition where middle Morrison Canyon Road is open for bi-directional traffic.

3.4.4 Impact Analysis

This section describes the environmental impacts of the project on land use and planning. It describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, compensate for) significant impacts are provided, where appropriate.

3.4.4.1 Methods for Analysis

The CEQA analysis for potential impacts on land use resulting from the proposed project is based on a qualitative assessment of project activities in the context of local, regional, and state land use planning objectives.

3.4.4.2 Thresholds of Significance

State CEQA Guidelines Appendix G (14 California Code of Regulations Section 15000 et seq.) has identified the significance criteria to be considered in determining whether a project could have significant impacts related to land use.

An impact would be considered significant if construction or operation of the project would have any of the following consequences:

- Physically divide an established community
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.4.4.3 Impacts and Mitigation Measures

The CEQA significance criteria pertaining to land use and planning guide the impact discussion for determining whether or not project implementation would result in a significant impact.

Impact LU-1: The proposed project would physically divide an established community. (*Conservatively Designated* Significant and Unavoidable)

In determining whether *any* project would physically divide an established community, there are no quantifiable or universally applicable standards. It is an inherently subjective analysis, which the City, as Lead Agency, is tasked with utilizing its reasoned discretion, expertise, and judgment based upon the evidence before the City, to evaluate. Therefore, the following analysis is necessarily qualitative and contextual.

In considering this question concerning the proposed project, the physical context of Morrison Canyon Road is an important consideration. As discussed above in subsection 3.4.3.1, the historical and existing physical constraints of middle Morrison Canyon Road (above Ridge Terrace) demonstrate that it has not historically served as a reasonable, vital, or reliable connection to the central Fremont community from upper Morrison Canyon Road. As discussed in Chapter 3, the road historically not only is narrow and subject to a number of physical constraints, it has also been affected by frequent, unplanned closures due to landslides, downed trees, and vehicular collisions, among other reasons.

As noted in Sections 2.2 (Project Setting) and 3.3.1 (Environmental Baseline), the City temporarily closed middle Morrison Canyon Road to private motor vehicle traffic in November 2018 through the

installation of barricades (mountable by emergency vehicles and navigable by pedestrians and bicyclists). This causes vehicles travelling from central Fremont to upper Morrison Canyon Road (above Vargas Road) to reroute travel via Mission Boulevard and I-680 to Vargas Road.

A relatively small number of homes on large lots and agricultural properties, as well as the Vargas Plateau Regional Park, are located along upper Morrison Canyon Road. Prior to the temporary November 2018 road closure, during the times when middle Morrison Canyon Road was open and passable to public traffic, middle Morrison Canyon Road was frequently utilized as a route between central Fremont and upper Morrison Canyon Road. This route was favored by some users because, when available, it potentially can provide a relatively more direct drive to central Fremont for those living on upper Morrison Canyon Road in comparison to the only other route, namely Vargas Road to I-680.

Although it has sometimes been used as described above, middle Morrison Canyon Road has not provided a consistently reliable connection to central Fremont because of, among other reasons, its narrowness (and attendant increased potential for conflicts with oncoming vehicles and/or bicycles and pedestrians) and its high degree of susceptibility to unscheduled closures due to landslides and other obstructions.

Based on the foregoing, the City cannot reasonably conclude that middle Morrison Canyon Road has ever served as a vital, reliable, or essential link to central Fremont, nor a connection to the Central Fremont community.

The proposed project, the long-term closure of middle Morrison Canyon Road to private motor vehicles, would not alter any of the roadway's existing physical constraints, including the roadway's narrowness, curvature, or steepness (or the fact that it is prone to frequent closure) that currently act to divide upper Morrison Canyon Road from central Fremont. Moreover, the proposed project would not change or hinder any of the alternative routes between upper Morrison Canyon Road and central Fremont (such as Vargas Road, Mission Boulevard, etc.). Therefore, the project would not foreclose upper Morrison Canyon Road residents' full access to central Fremont, albeit via different routes.

For the reasons described above, the City does not consider Morrison Canyon Road to be an established, reliable connection that unites upper Morrison Canyon to central Fremont. As a result, the proposed project would not divide the upper Morrison Canyon neighborhood from central Fremont, because upper Morrison Canyon was effectively divided from central Fremont even prior to the 2018 temporary closure. In addition, the proposed project would allow continued, open, and full access between upper Morrison Canyon and central Fremont to pedestrians, bicyclists, emergency vehicles, and residents. Emergency access to upper Morrison Canyon from central Fremont would continue. Moreover, in remaining open and accessible to pedestrian and bicycle use, middle Morrison Canyon Road would retain the existing connections to central Fremont and fulfill the Park and Recreation Element's identification of Morrison Canyon Road as an existing/planned recreational trail.

Nonetheless, the City recognizes the importance some upper Morrison Canyon residents attach to Morrison Canyon Road as a potential means of driving from their homes to central Fremont. By eliminating the potential use of the road for that purpose, the project arguably could be considered as physically dividing upper Morrison Canyon from the central Fremont community.

As a result, although the existence of an established, connected community between upper Morrison Canyon and central Fremont appears specious, the City has decided conservatively to consider the long-term closure of the road a potentially significant land use impact. This is because the project arguably would add to the existing physical factors that isolate upper Morrison Canyon Road from central

Fremont. Essentially, the proposed project would not cause, but would continue and would not eliminate the notable physical division of the upper Morrison Canyon Road area from central Fremont that, as a practical matter, exists whether or not Morrison Canyon Road remains closed. Although the City is adopting this conservative approach, it should be noted that the impact discussed here would not legally or technically be considered a significant CEQA impact because it is, in reality, the continuation of an existing physical condition. The upper Morrison Canyon Road area was largely isolated prior to the November 2018 road closure; the area has been even more isolated since the November 2018 closure. In other words, the physical isolation of the upper Morrison Canyon Road area is not directly or indirectly attributable to the proposed project.

Nonetheless, due to the unique circumstances presented, the City is making this conservative determination to foster fully informed decision making and public review.

However, due to the unique circumstances presented, and recognizing that permanent closure of middle Morrison Canyon Road would continue the existing isolation of the upper Morrison Canyon Road community, and in an abundance of caution, Impact LU-1 regarding the physical division of an established community, is conservatively identified as significant.

The only feasible method to lessen or avoid this impact would be to re-open middle Morrison Canyon Road for bi-directional private motor vehicle traffic and resume conditions prior to the November 2018 temporary closure, which would be counter to the objectives of the proposed project. Therefore, the City is identifying Impact LU-1 to be ***conservatively designated*** **significant and unavoidable**.

Please refer to Section 4.7, *Alternatives Considered but Dismissed*, in which several alternative means of meeting the project objectives are evaluated but found to be infeasible for legal, technical, environmental, and/or other reasons. These include closing middle Morrison Canyon Road to the public but enabling continued access by residents of upper Morrison Canyon Road, converting middle Morrison Canyon Road to one-way, and other options.

Impact LU-2: The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

City of Fremont General Plan Policy 4.1-10, Neighborhood Barriers, discourages land use decisions that divide neighborhoods or create unnecessary barriers within established neighborhoods while encouraging projects that "knit" Fremont together, such as greenway projects. Although the proposed project would create a barrier within an established neighborhood, which could conflict with General Plan Policy 4.1-10, Neighborhood Barriers, the barrier's design allows passage for pedestrians and bicycles at all times, and motorized vehicles in emergency situations. Additionally, there are other routes to access the Hill Area neighborhood such as Vargas Road. Furthermore, the policy discourages the creation of "unnecessary" barriers. The barriers proposed for the project are considered a "necessary" means in which to carry out the primary objectives of the project, which are to increase the safety of Morrison Canyon Road for all users by limiting its use, and to prohibit use of the roadway as a commuter cut-through route (among other objectives). For these reasons, the project would not conflict with Policy 4.1-10.

Also, the project would be consistent with the general plan policies regarding "Implementation 8-1.5.A: Land Corridors for Linear Parks", Policy 4-2.2. Connectivity, and Policy 4-2.4: Pedestrian and Bicycle Trails as well as the identification of the roadway in the Park and Recreation Element as an existing/planned recreational trail. This is because the proposed project would be consistent with the City's bicycle and pedestrian master plans and would be compatible with the goal of providing safe and

convenient recreational opportunities, access, and mobility alternatives to cyclists and pedestrians. Therefore, the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect and Impact LU-2 would be **less than significant**.

3.4.5 References

City of Fremont. 2011. *City of Fremont General Plan*. Available: https://fremont.gov/398/General-Plan. Accessed: October 24, 2019.

City of Fremont. 2015. *City of Fremont Municipal Code*. Chapter 18.55: O-S Open Space District. Available: https://www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont1855.html#18.55.010. Accessed: October 24, 2019.

3.5 Public Services

3.5.1 Introduction

This section describes the regulatory and environmental setting for public services, including fire, emergency medical services, and police protection in the project vicinity. It also describes the impacts on public services that would result from implementation of the proposed project. An analysis of the public services that the project would not affect, including schools, parks, and other public facilities, is included in Section 3.7, *Other Resources*, subsection 3.7.11.

3.5.2 Regulatory Setting

This section summarizes the federal, state, regional, and local regulations related to public services that are applicable to the project.

3.5.2.1 Federal

There are no federal regulations related to public services.

3.5.2.2 State

California Department of Forestry and Protection

The California Department of Forestry and Fire Protection (CAL FIRE) implements fire safety regulations in the state. The California Public Resources Code (Title 14 and Title 19) includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment with an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify the fire suppression equipment that must be provided on-site for various types of work in fire-prone areas.

CAL FIRE has rated areas within California for their potential fire hazards. The risk of wildland fire is related to a combination of factors, including winds, temperatures, humidity levels, and fuel moisture content. Of these four factors, wind is the most crucial. Steep slopes also contribute to fire hazards by intensifying the effects of wind and making fire suppression difficult. Where there is easy human access to dry vegetation, fire hazards increase because of the greater chance of human carelessness. Fire Hazard Severity Zone maps were developed using a science-based and field-tested computer model that assigns a hazard score, which is based on the factors that influence fire likelihood and fire behavior. There are three hazard zones in the State Responsibility Areas (SRAs): Moderate, High, and Very High (California Department of Forestry and Fire Protection 2007b).

CAL FIRE has primary financial responsibility for preventing and suppressing fires in certain portions of the state (i.e., SRAs). These areas include "lands covered wholly or in part by timber, brush, undergrowth, or grass, whether of commercial value or not; lands that protect the soil from erosion and retard runoff or percolation; lands used principally for range or forage purposes; lands not owned by the federal government; and lands that are not incorporated" (Public Resource Code Section 4126). Lands are removed from SRAs when housing densities average more than three units per acre over an area of 250 acres, unless dictated otherwise.

Lands surrounding the proposed project are identified as both Moderate and Very High Fire Hazard Severity Zones (California Department of Forestry and Fire Protection 2007a). The proposed eastern roadway closure point, at the intersection of Morrison Canyon Road and Vargas Road, is approximately 0.2 mile from a designated SRA.

3.5.2.3 Regional and Local

The City of Fremont General Plan (City of Fremont 2011) includes the following policies related to public service ratios:

- Safety Policy 10-4.3: Access and Clearance. Require adequate access and clearance for emergency equipment, such as fire equipment; fire suppression personnel; and evacuation for new development.
- Safety Policy 10-5.2: 6-minute, 40-second Response Time. Strive to maintain a 6-minute, 40-second response time for areas below the toe of the hill.

3.5.3 Environmental Setting

3.5.3.1 Fire Protection

Fremont Fire Department

Fire protection services in the project area are provided by the Fremont Fire Department. In 2018, the department responded to a total of 16,198 incidents, 458 of which were fires and 10,661 were medical aid/rescue incidents, with the rest considered miscellaneous incidents, including service calls and false alarms (Fremont Fire Department 2018). Medical aid/rescue responses accounted for approximately 66 percent of all department responses (Fremont Fire Department 2018). The department strives to maintain a 6-minute, 40-second response time 90 percent of the time for all emergencies occurring below the toe of the hill[1] (City of Fremont 2011). The City of Fremont General Plan Land Use Diagram identifies the location of the toe of the hill; the proposed project is located above the toe of the hill (City of Fremont 2018). The median response time in 2018 was 3 minutes and 28 seconds, an increase of 17 seconds compared with 2010 (Fremont Fire Department 2018). The Fremont Fire Department notes that this increase in response time was due to increased street traffic and incident volumes (Fremont Fire Department 2018). Nonetheless, the existing response time surpasses the City's goals. There are 11 fire stations in the City of Fremont (City of Fremont 2012). The closest station to the project site is Station 9, located at 39609 Stevenson Place, which is approximately 1.5 miles[2] from the proposed westernmost closure location.

East Bay Regional Park District Fire Department

Vargas Plateau Regional Park, managed by the East Bay Regional Park District (EBRPD), borders the north side of Morrison Canyon Road, along the hillsides and ridges. The EBRPD has its own fire department, with a crew of full-time firefighters as well as fully trained volunteer firefighters who provide typical emergency services (e.g., fire suppression, search and rescue, fuel management, pre-

[1] "Toe of the hill" refers to the City Council–approved toe-of-the-hill line, which is located along the base of the foothills in the area where the natural grade first becomes 20 percent or more.

[2] The distance of 1.5 miles was measured for driving, using the following route: Stevenson Place to Stevenson Boulevard to Mission Boulevard to Morrison Canyon Road.

hospital emergency medical care). The EBRPD has a total of six fire stations, with the primary fire station located at Tilden Park in Orinda; the five other stations serve as substations where engines, water tenders, and other safety equipment can be stored (East Bay Regional Park District 2020). The closest EBRPD fire station to the project site is in Hayward at 1320 Garin Avenue (Station 7), approximately 5.7 miles from the project site.

CAL FIRE

CAL FIRE is responsible for providing wildfire protection in SRA lands throughout California, including designated SRA lands near the project site. CAL FIRE resources include 21 operational units, 802 fire stations (234 state and 568 local government), 42 conservation camps (including fire centers), 12 air attack bases, and 10 helitack bases (California Department of Forestry and Fire Protection 2018). The closest CAL FIRE station to the project site is in Pleasanton at 11345 Pleasanton-Sunol Road (Santa Clara – Sunol Fire Station), approximately 3.4 miles from the project site.

3.5.3.2 Police Protection Services

Police protection services are provided by the Fremont Police Department. The police department deploys officers from three separate zones. The project site is located in Zone 1, which is the central portion of Fremont (Fremont Police Department n.d.). The city has one police station at 2000 Stevenson Boulevard, which is approximately 2.2 miles[3] from the proposed western/bottom closure. In 2018, a total of 20,526 crimes were reported in Fremont; 502 were violent crimes, 4,687 were property crimes, and 22 were arson (State of California, Department of Justice 2018). Over the past 10 years (2009–2018), the average number of crimes was approximately 19,491, with most crimes occurring in 2009 (22,255) and the fewest occurring in 2014 (16,929) (State of California, Department of Justice 2018).

3.5.4 Impact Analysis

This section describes the project's environmental impacts related to fire protection and police protection services. This section also describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant.

3.5.4.1 Thresholds of Significance

State CEQA Guidelines Appendix G (14 California Code of Regulations Section 15000 et seq.) has identified the significance criteria to be considered in determining whether a project could have significant impacts on public services.

An impact would be considered significant if construction or operation of the project would have any of the following consequences:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

[3] The distance of 2.2 miles was measured for driving, using the following route: Stevenson Boulevard to Mission Boulevard to Morrison Canyon Road.

- Fire protection
- Police protection

Section 3.7.11 addresses impacts on schools, parks, and other public facilities. Therefore, the following analysis does not include impacts on schools, parks, and other public facilities.

3.5.4.2 Methods for Analysis

The evaluation of impacts on public services in the study area due to construction and operation of the project was based on a review of available literature and information from the City of Fremont. For both construction and operation, significant impacts related to fire protection, including emergency medical services, and police protection may occur if acceptable service ratios and performance objectives are not met and the resultant increase in staffing and/or equipment requires the construction of new or altered facilities, which could have a significant physical impact on the environment. Not meeting service ratios is considered a social and/or economic impact; CEQA is concerned with physical impacts on the environment. Therefore, a project may result in increased demand for public services; however, a significant impact under CEQA occurs only if that demand results in the need for new facilities, which then results in an indirect physical impact on the environment that is considered significant. To determine impacts associated with construction and operation, a qualitative assessment of whether implementation of the proposed project would result in a demand for public services that would be similar to or substantially different from existing conditions is provided. As noted in Chapter 3, subsection 3.3.1, Environmental Baseline, the analysis in this section uses an environmental baseline prior to the November 2018 temporary closure of middle Morrison Canyon Road.

3.5.4.3 Impacts and Mitigation Measures

Impact PS-1: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. (Less than Significant)

Construction of the project would involve the use of hand tools and one or two pickup trucks for approximately 1 day. Given the short duration of construction, the project is not expected to have a negative effect on current fire and police response times. For similar reasons, construction of the project is not expected to interfere substantially with operations of CAL FIRE or the EBRPD fire department. Construction of the proposed project would, therefore, not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. Impact PS-1 would be **less than significant** during project construction.

Project implementation would result in permanently retaining the closure of middle Morrison Canyon Road to private motor vehicles, but the road would continue to be fully accessible to fire and police emergency vehicles. The conditions for emergency vehicles with implementation of the project would effectively be similar to pre-closure conditions. Furthermore, the project is not expected to have a negative effect on current fire and police response times. This was confirmed in

the City's communications with the fire and police departments (Thurston pers. comm.; Petersen pers. comm). For the same reasons, operation of the project is not expected to interfere substantially with the operations of CAL FIRE or the EBRPD fire department.

The City's fire and police departments have noted that any means for achieving the proposed project (permanent road closure) should be designed so as not to significantly impede emergency vehicles or increase emergency response times (Veloso pers. comm.). As described in Section 2.3.2, the proposed barricades that would render the road closure consist of pylons made of flexible plastic with a hinged base, allowing them to be mounted by emergency and non-emergency vehicles. As such, the means for implementing the proposed project, including the barricades proposed by the project, has been designed so that access for emergency vehicles would be maintained and the City's Fire Department has confirmed that the temporary hinged barricades would be acceptable for emergency vehicle access in both directions if the road closure were to become permanent (Thurston, pers. comm.). It is noted that in the event that the future means for maintaining the road closure should be replaced, revised, updated, altered, or otherwise changed, the design would be compatible with emergency vehicle access in both directions so as not to significantly impede emergency vehicles or increase emergency response times, as with the project. Operation of the proposed project would, therefore, not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. Impact PS-1 would be **less than significant** during project operation.

3.5.5 References

California Department of Forestry and Fire Protection. 2007a. *Alameda County Fire Hazard Severity Zones in SRA*. Available at https://osfm.fire.ca.gov/media/7271/fhszs_map1.pdf. Accessed: May 20, 2019.

California Department of Forestry and Fire Protection. 2007b. *Fact Sheet: California's Fire Hazard Severity Zones*. Available: https://www.sccgov.org/sites/dpd/DocsForms/Documents/Fire_Hazard_Zone_Fact_Sheet.pdf. Accessed: January 2, 2020.

California Department of Forestry and Fire Protection. 2018. *What is CAL FIRE?* September. Available: https://www.fire.ca.gov/media/4925/whatiscalfire.pdf. Accessed: January 2, 2020.

City of Fremont. 2011. *City of Fremont General Plan*. Safety Element. December. Available: https://fremont.gov/398/General-Plan. Accessed: October 9, 2019.

City of Fremont. 2012. *Fire Station Locations.* Available: https://fremont.gov/DocumentCenter/View/18437/Fremont-Fire-Districts---11x17_2012?bidId=. Accessed: October 9, 2019.

City of Fremont. 2018. *General Plan Land Use Diagram*. November 20. Available: https://fremont.gov/DocumentCenter/View/6446/Amended-Landuse-Diagram-24k-web?bidId=. Accessed: October 9, 2019.

East Bay Regional Park District. 2020. *Equipment and Stations*. Available: https://www.ebparks.org/about/fire/equipment_and_stations/default.htm. Accessed: January 2, 2020.

Fremont Fire Department. 2018. *2018 Annual Report.* Available: http://fremont.gov/DocumentCenter/View/40902/2018-Annual-Report-14-Final-Cambria. Accessed: October 9, 2019.

Fremont Police Department. n.d. *Police Zone Map.* Available: https://www.fremontpolice.org/DocumentCenter/Home/View/38. Accessed: October 9, 2019.

State of California, Department of Justice. 2019. *OpenJustice Database, Crime Statistics, Crimes and Clearances, 2009–2018 Statistics.* Available: https://openjustice.doj.ca.gov/exploration/crime-statistics/crimes-clearances. Accessed: October 9, 2019.

Personal Communications

Petersen, Kimberly, Chief of Police. City of Fremont Police Department. March 8, 2020—communication with Bill Roth, City of Fremont, and Lisetta Quick, ICF.

Thurston, Amiel, Deputy Fire Chief. City of Fremont Fire Department. February 17, 2020—communication with Bill Roth, City of Fremont, and Lisetta Quick, ICF.

Veloso, Noe. City of Fremont. 2019—*Public Safety Coordination for the Morrison Canyon Road Traffic Safety Project* memorandum to John Cook, ICF.

3.6 Transportation and Circulation

3.6.1 Introduction

This section summarizes and incorporates by reference the results of the traffic safety study for the proposed road closure project on Morrison Canyon Road that was prepared by W-Trans in January 2020. The traffic safety study and supporting calculations are included in Appendix D of this environmental impact report (EIR). The traffic safety study examines project impacts on roadway level of service (LOS), vehicle miles traveled (VMT), traffic hazards, pedestrians, bicycles, transit, and a summary of transportation regulations applicable to the proposed project. All of these transportation subtopics, as well as emergency vehicle access, and construction activities are considered in the discussions of existing conditions, existing-plus-project conditions, and 2040 cumulative conditions. Thresholds of significance are explained and an analysis of potential effects associated with implementation of the proposed project are presented.

3.6.2 Regulatory Framework

This section provides a summary of the plans and policies of the City as well as federal, state, and regional agencies that have transportation-related policy and regulatory control over the project site. These plans and policies include the Fremont General Plan, the Fremont Municipal Code, 2018 Bicycle Master Plan, Pedestrian Master Plan, and Vision Zero policy.

3.6.2.1 Federal Plans and Policies

There are no federal transportation plans, policies, or regulations that are applicable to the proposed project.

3.6.2.2 State Plans and Policies

California Department of Transportation (Caltrans)

Caltrans is responsible for operations and maintenance of the state highway system and serves as a reviewing agency for Environmental Impact Reports (EIRs) to ensure that proposed projects would not have a significant impact on state highway facilities. The project corridor, Morrison Canyon Road, is not a state facility; however, there are two state facilities in the project vicinity, Mission Boulevard (SR-238) and I-680, which could be affected by the project. All study intersections for the proposed project are under the jurisdiction of Caltrans, as discussed below.

CEQA Section 21099(b)(1) (Senate Bill 743)

California Environmental Quality Act (CEQA) Section 21099(b)(1) requires the Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines and establish criteria for determining the significance of the transportation impacts of projects that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA Section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts, pursuant to Section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, OPR published for public review and comment its *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, recommending that transportation impacts for projects be measured with use of a vehicle miles traveled (VMT) metric. In December 2018, the Natural Resources Agency finalized updates to the CEQA Guidelines that replaced level of service with VMT as a transportation threshold in the Appendix G initial study checklist.

3.6.2.3 Regional Plans and Policies

There are several regional planning agencies whose plans and policies guide growth and development in the nine-county San Francisco Bay Area. Some of these plans and policies are advisory, and some include specific goals and provisions that must be adhered to when evaluating a project under CEQA. The regional plans and policies that are relevant in determining the proposed project's potential impacts on transportation are discussed below.

Alameda County Transportation Commission

The Alameda County Transportation Commission (Alameda CTC), through its Congestion Management Program (CMP), oversees how roads of regional significance function, and requires local jurisdictions to evaluate the impact of proposed land use changes (i.e., General Plan amendments, and developments with trip-generating potential of more than 100 new peak-hour vehicle trips) on the regional transportation systems (ACTC 2019). The proposed project is within the jurisdiction of the Alameda CTC; however, the proposed project is not subject to the CMP because it is not a development with trip-generating potential of more than 100 new peak-hour vehicle trips to the regional transportation system. This is discussed in detail below under Section 3.6.4, Impacts and Mitigation Measures.

3.6.2.4 Local Plans and Policies

Fremont General Plan

The General Plan is the planning document that guides the City's development and is the foundation upon which all development decisions are based and sets priorities and goals for the future. As prescribed by Government Code (§65302), the General Plan must include seven "elements" or subject categories: Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. It also may include other optional elements that address topics of interest or priority to a community. The City of Fremont General Plan includes the seven state-mandated elements as well as seven optional elements: Sustainability, Community Character, Economic Development, Parks and Recreation, Public Facilities, Community Plans, and Implementation. The City Council adopted the General Plan Update on December 13, 2011.

Mobility Element, Chapter 3

The Mobility Element of the Fremont General Plan (Fremont 2011) establishes the following goals and policies that are relevant to transportation as it relates to the proposed project:

- **Goal 3-1:** Complete Streets, and Policies: 3-1.1, 3-1.4, 3-1.5, and 3-1.6 call for providing City streets that serve multiple modes of transportation, with improved circulation and safety for pedestrians and bicyclists.

- **Goal 3-2:** Reducing Vehicle Miles Traveled, and Policies: 3-2.1, 3-2.3, 3-2.4, and 3-2.5 establish an objective of improving mobility in Fremont, with an emphasis on bicycle and pedestrian safety, while reducing the growth of vehicle miles traveled.
- **Goal 3-3:** Accessibility, Efficiency, and Connectivity, and Policies: 3-3.2, 3-3.4, 3-3.5, 3.3-6, and 3-3.7 call for maximizing the efficiency of the transportation network, and its ability to connect the city, minimize travel distances, and increase mobility, while monitoring roadway safety for all residents.
- **Goal 3-4:** Balancing Mobility and Neighborhood Quality, and Policies: 3-4.1, 3.4-2, 3-4.3, 3-4.5, 3-4.6, and 3-4.7, promote a transportation system that balances speed and convenience with the desire to have safe streets for all users, walkable neighborhoods, and an enhanced sense of place.
- **Goal 3-5:** Connecting to the Region, and Policies: 3-5.1, 3-5.2, and 3-5.7 encourage participation in regional transportation and land use planning efforts, including trail planning, so that Fremont is well connected regionally and throughout the San Francisco Bay Area so as to meet the transportation and emergency response needs of all residents and businesses.

Parks and Recreation Element, Chapter 8

The Parks and Recreation Element of the Fremont General Plan (Fremont 2011) establishes the following goals and policies that are relevant to transportation as it relates to the proposed project:

- **Diagram 8-2**, Recreational Trails, identifies Morrison Canyon Road a Recreational Trail (existing and planned).
- **Policy 8-1.5: Linear Parks:** Acquire and develop linear trail parks that serve many functions including recreational opportunities, alternative transportation routes, aesthetic enhancements and the re-use of abandoned or underutilized transportation, utility, or other corridors.

The General Plan states that "Linear parks provide a recreational opportunity for walkers, runners and cyclists. They typically include a paved path, with limited landscaping and other amenities such as drinking fountains at some locations. Linear parks are typically constructed on former rail corridors, utility corridors, or other similar areas. In addition to their recreational benefits, linear parks provide a safe, convenient alternative to driving" (p. 8-6).

Fremont Municipal Code, Title 10

Title 10, Vehicles and Traffic, of the Fremont Municipal Code (Fremont 2019d) contains traffic regulations that are relevant to the proposed project, shown below.

- Article III. Traffic-Control Devices gives the city manager authority to install and maintain traffic-control devices to regulate, guide, and warn traffic.
- Article VII. Miscellaneous Driving Rules; 10.05.100 Exemptions to Certain Vehicles, establishes provisions exempting police, fire, ambulance, or any public utility vehicle from some driving rules in the code.
- Article VII. Miscellaneous Driving Rules; 10.05.350 Restricted Access, allows for public authority to establish limited access roadways and restrict vehicle access on them.

2018 Bicycle Master Plan

The 2018 Bicycle Master Plan (Fremont 2018a) identifies projects and programs to make Fremont a city in which bicycling is safe, comfortable, and convenient. The Plan identifies a 5-year priority

network of "low stress" bicycling corridors comprised of facilities that are either on low traffic volume roadways or physically separated from traffic. These facilities are designed to appeal to the large percentage of bike riders that are interested in bicycling for transportation and recreation but concerned about the safety of riding with high speed traffic. The Plan also addresses coordination between the different agencies that operate bicycle trails in Fremont, including the flood control and regional park districts. In the project area, Morrison Canyon Road is identified as a "planned" Class I bikeway for a 0.76-mile distance between "middle" Morrison Canyon Road and Vargas Road (refer to Table 3.6-3, Existing and Planned Bicycle Facilities, below).

The following goals and policies from the 2018 Bicycle Master Plan are relevant to transportation as it relates to the proposed project:

- **Goal 2:** Prioritize bicycle safety to support the City's Vision Zero Policy to significantly reduce fatalities and severe injuries by 2020, and Policies 2-1 and 2-2 strive to reduce bicycle injury and fatality rates to zero, and support the identification of safety countermeasures and traffic calming measures to improve bicycle safety.
- **Goal 4:** Attract new bicycle trips through education, encouragement, and enforcement activities, and Policies 4-1, 4-2, and 4-3 which encourage public awareness of available bicycle and trail facilities and programs, bike safety education, and investment in a safe and inviting bicycle network.
- **Goal 6:** Facilitate coordination and cooperation in the development of the bicycle network, and Policy 6-1 which encourages coordination across departments regarding bicycle planning and the development of linear trails and trail connections.

Pedestrian Master Plan

The City's *Pedestrian Master Plan* was adopted in 2016 (Fremont 2016) and outlines future improvements and programs to encourage walking. The Plan identifies specific projects to make walking a more viable mode of transportation in the city, supports education and awareness of the health benefits of walking, and includes pedestrian safety policies.

Vision Zero Policy

The Fremont City Council approved a Vision Zero policy in September 2015 and an Action Plan in March 2016. Vision Zero is a transportation engineering approach that considers the loss of life from traffic crashes as unacceptable and preventable and identifies safety as the highest priority for the design and operation of the transportation system, with the goal to eliminate fatalities and significantly reduce severe injuries by 2020. The result, after three years, has been a more than fifty percent reduction in serious traffic crashes, including those that result in a life-altering injury or a fatality (Fremont 2016).

3.6.3 Environmental Setting

3.6.3.1 Environmental Baseline Conditions

To address the documented increase in commuter cut-through traffic on Morrison Canyon Road (which was not built for, nor does it have the correct conditions to accommodate, high-volumes of automobile traffic, as explained in Chapter 2, *Project Description*) and to address the growing safety concerns associated with its use as such, the City initiated a community outreach process in the

spring of 2018 to solicit feedback on ways to improve the safety of Morrison Canyon Road. The result of this process was the City Council approval on October 16, 2018 to temporarily close the "middle" section of Morrison Canyon Road in the interest of public safety. The temporary closure became effective on November 17, 2018. The closure, which includes barricades and signage, limits access to private motor vehicles, but allows continued access for emergency vehicles, local residents in emergency situations, and non-vehicular uses (pedestrian and bicycle). The closure is achieved through the use of flexible plastic barricades with a hinged base that can be mounted by most motor vehicles and navigated by pedestrians and bicyclists.

Normally, the environmental setting or baseline describes the current conditions at the time of issuance of the Notice of Preparation (NOP) of an EIR, which for this proposed project was October 4, 2019. However, the temporary closure had been in effect since October 2019 at the time of NOP issuance (also refer to Chapter 3.0, *Impact Analysis*). The use of an environmental baseline of October 2019 (in other words, with the temporary closure in effect) would have presented somewhat circular environmental conclusions, insofar as the proposed project is similar to the temporary closure in terms of limiting automobile traffic on middle Morrison Canyon Road. A transportation analysis that would examine conditions in October 2019 against proposed project conditions would find essentially identical conditions and thus no effect under CEQA. This would understate the effects of a closure of middle Morrison Canyon Road. For this reason, and in order to more fully describe and disclose the true effects of the project, the baseline conditions for the project's traffic safety study and this transportation and circulation analysis (as well as all analyses within this EIR) is based on the conditions that were present immediately prior to the November 2018 closure in order to more fully and accurately disclose potential environmental effects of the proposed project (a permanent closure).

3.6.3.1 Existing Conditions

Roadway Network

Figure 2-1 in Chapter 2, *Project Description*, shows the location of the project corridor within the transportation study area. This section describes the regional and local roadway systems in the vicinity of the project site. Each roadway's designation according to the General Plan Roadway Classification System (shown above under 3.6.2.4, Local Plans and Policies) is indicated in bold within the text.

Regional Access

Interstate-680 (I-680) is a major regional **freeway** that runs east-west through Fremont from San Jose to I-80 in Cordelia. In the vicinity of the proposed project, the roadway has eight lanes (four lanes in each direction, including a High-Occupancy Toll (HOT) lane in the southbound direction) and serves approximately 148,000 vehicles per day (City of Fremont, 2018b).

Mission Boulevard (SR-238) is a **primary arterial** running north-south between Hayward and I-680 in Fremont. The roadway segments south of Mowry Avenue and north of Niles Canyon Road have four lanes, and between Mowry Avenue and Niles Canyon Road there are six lanes.

Local Access

Local roadways in the project area are described below.

Morrison Canyon Road east of Mission Boulevard is a **local street**. It is a narrow, east-west, one-lane road that was historically a dirt or gravel livestock trail that provided limited, local access to the rural hillside properties in the Morrison Canyon and Vargas Road areas.

Canyon Heights Drive is a north-south, two-lane **local street** that intersects Morrison Canyon Road from the northwest.

Mission Boulevard (SR 238) is a 4-lane, north-south **primary arterial** that intersects Morrison Canyon Road at its westernmost point.

Ridge Terrace is a two-lane **local street** south of Morrison Canyon Road that intersects "middle" Morrison Canyon Road within the proposed road closure area.

Vargas Road is a two-lane, north-south **local street** that connects I-680 and Morrison Canyon Road.

3.6.3.2 Traffic Operating Conditions

Operating conditions during the weekday p.m. peak periods were evaluated to capture the greatest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The p.m. peak hour occurs between 4:00 and 6:00 p.m., and in the project area, typically reflects the highest level of congestion during the homeward bound commute. The City's monitoring data indicates that approximately 80 percent of the total weekday vehicle traffic volume on Morrison Canyon Road is from eastbound (or uphill) vehicles traveling between 3:00 p.m. and 7:00 p.m., indicating that the p.m. peak hour is the primary time of day that traffic diverts to Morrison Canyon Road.

3.6.3.3 Study Area

The project study area was selected based on the potential for project impacts and includes the following intersections that are all under the jurisdiction of Caltrans, as discussed above under Section 3.6.2, Regulatory Framework:

1. Mission Boulevard/Niles Canyon Road
2. Mission Boulevard/Mowry Avenue
3. Mission Boulevard/Walnut Avenue
4. Mission Boulevard/Stevenson Avenue
5. Mission Boulevard north/I-680 SB Ramps
6. Mission Boulevard north/I-680 NB Ramps

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 3.6-1.

Mission Boulevard/Niles Canyon Road is a four-legged signalized intersection including protected left-turn phasing for all approaches. Crosswalks are present across the north, east, and west legs accompanied by pedestrian signal heads and pedestrian push buttons.

Mission Boulevard/Mowry Avenue is a signalized tee-intersection accompanied by a signalized driveway which functions as the east leg. Protected left-turn phasing is present for all approaches, in

addition to crosswalks across the west and south legs. Pedestrian signal heads and push buttons are also present.

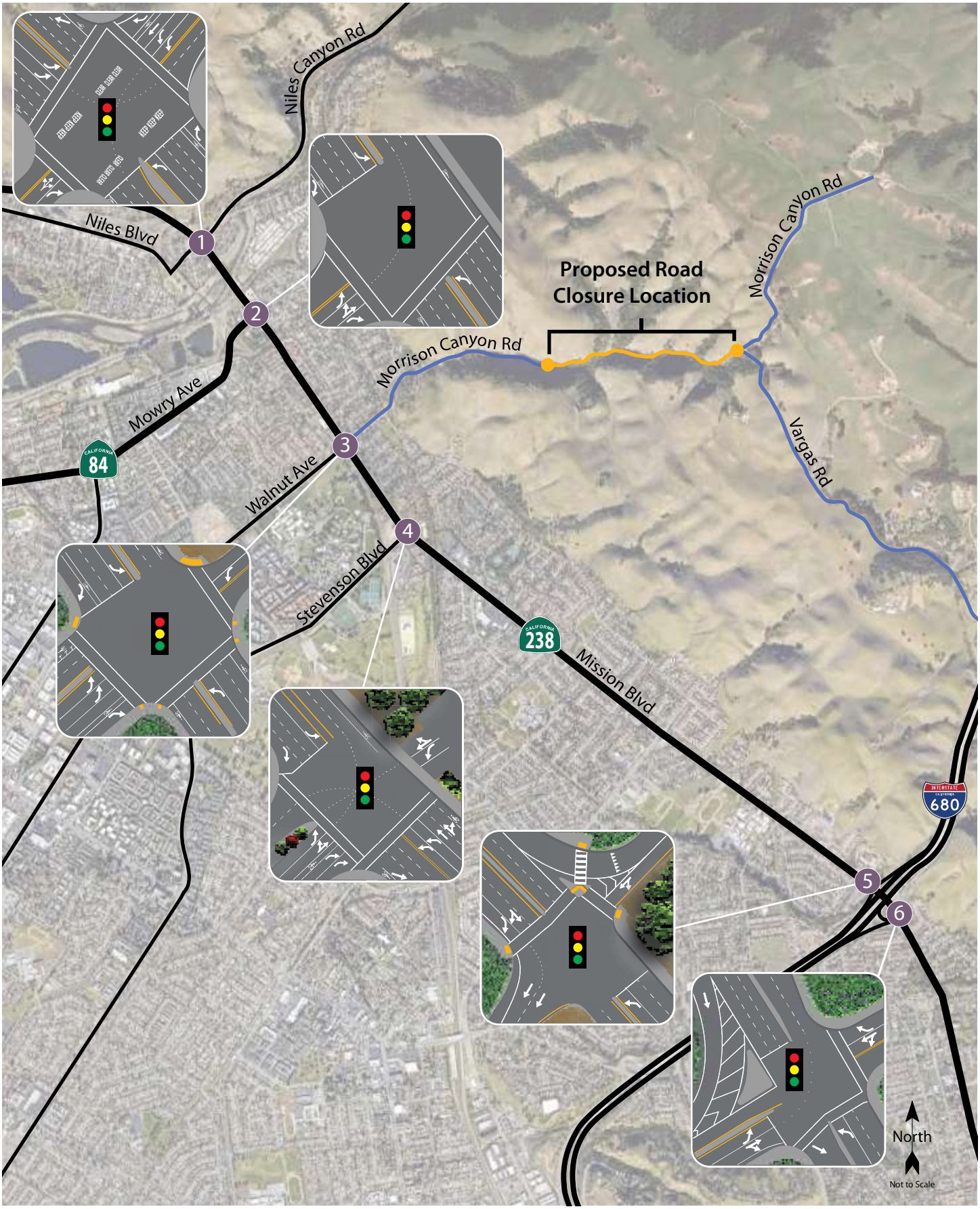
Mission Boulevard/Walnut Avenue-Morrison Canyon Road is a four-legged signalized intersection including protected left-turn phasing on all approaches except the eastern leg. Crosswalks are present across all legs with the exception of the northern approach.

Mission Boulevard/Stevenson Avenue is a four-legged signalized intersection consisting of a signalized driveway at the eastern approach. Crosswalks are presents across the south and west legs in addition to pedestrian signal heads.

Mission Boulevard North/I-680 SB Ramps is a four-legged signalized intersection with protected left-turn phasing on the approaches. The west leg is the on-ramp while the east leg is the off-ramp with the channelized right-turn. There are crosswalks with pedestrian signal heads on the southbound and westbound approaches.

Mission Boulevard North/I-680 NB Ramps is a four-legged signalized intersection with protected left-turn phasing on all approaches. The west leg is the on- and off-ramps for I-680. There is a crosswalk with pedestrian signal heads across the south and east legs.

This page was intentionally left blank.



frm043.ai 12/19

Morrison Canyon Road Traffic Safety Project

Figure 3.6-1 Study Intersections and Existing Lane Configurations

W-Trans

This page was intentionally left blank.

Level of Service Conditions

The concept of level of service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation. LOS measurements are generally calculated during evening (4 p.m. – 6 p.m.) peak hours, since this time typically represents the worst traffic conditions. LOS methodologies for intersections, freeways, and arterials are described below under "Methodology", and the City's General Plan policy regarding LOS standards is described under "Significance Criteria", below.

Senate Bill (SB) 743 recently established a change in the metric to be applied to determining traffic impacts associated with development projects. Rather than the delay-based criteria associated with a LOS analysis, the change in Vehicle Miles Traveled (VMT) as a result of a project will be the basis for determining impacts pursuant to CEQA with respect to transportation and traffic. Refer to Section 3.6.2 Regulatory Framework, above.

Intersections

The Existing Conditions scenario provides an evaluation of operations based on traffic volumes conditions prior to the temporary Morrison Canyon Road closure[1]. Volumes are representative of the afternoon peak hour. This condition does not include project-generated redistributed traffic volumes along roadways and intersections located within the study area.

As shown in Table 3.6-1, Existing PM Peak Hour Intersection Levels of Service, under existing conditions, all study intersections currently operate acceptably at LOS D or better during the PM peak hour, except for the intersection of Mission Boulevard/Mowry Avenue, which operates at LOS E. The existing traffic volumes are shown in Figure 3.6-2.

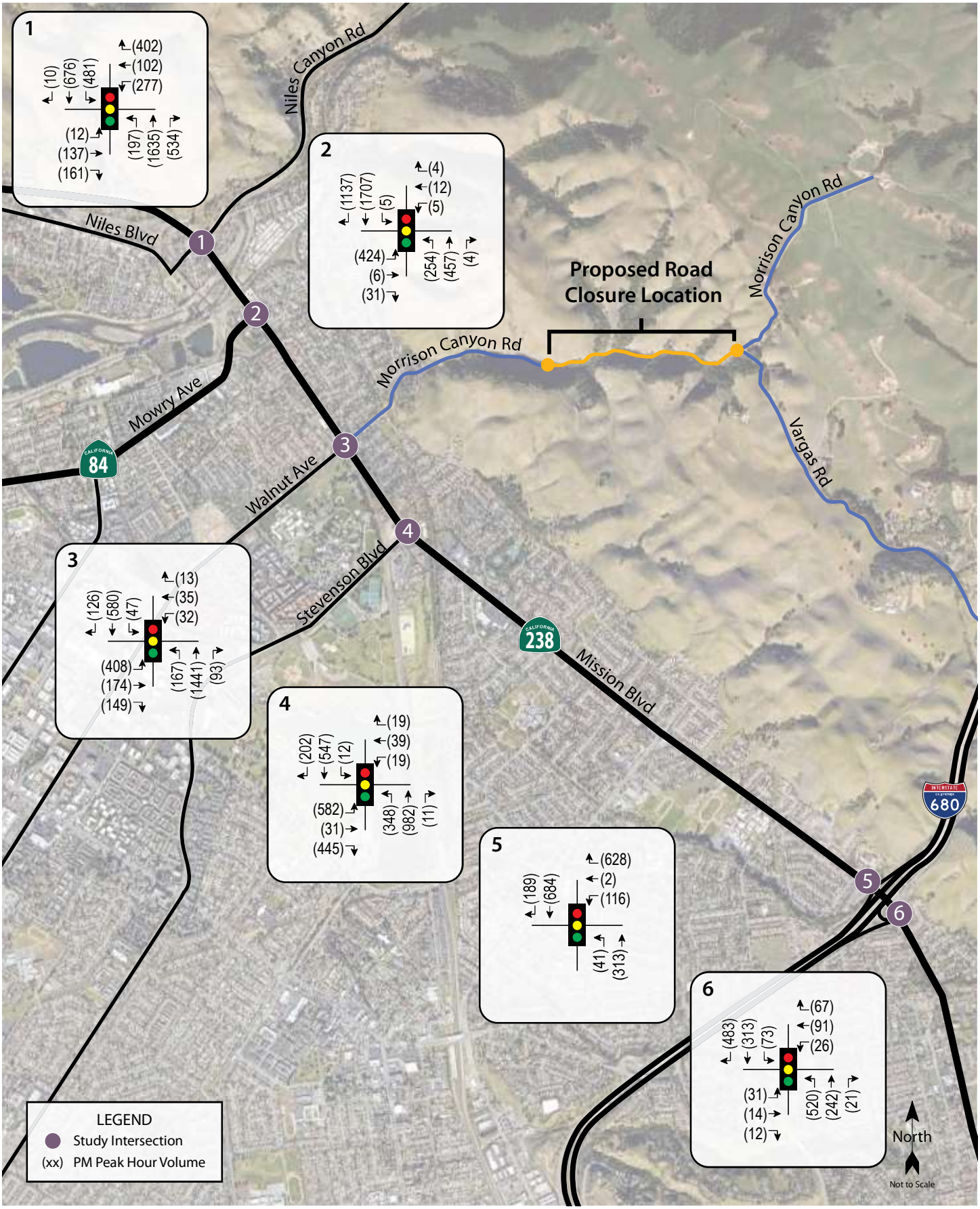
Table 3.6-1. Existing PM Peak Hour Intersection Levels of Service

	PM Peak Hour	
Study Intersection	**Delay**	**LOS**
1. Mission Blvd/Niles Canyon Rd	42.6	D
2. Mission Blvd/Mowry Ave	58.8	E
3. Mission Blvd/Walnut Ave	35.2	D
4. Mission Blvd/Stevenson Ave	42.1	D
5. Mission Blvd North/I-680 SB Ramps	24.4	C
6. Mission Blvd North/I-680 NB Ramps	40.3	D

Source: W-Trans, 2020.
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service.

[1] Project transportation engineers gathered traffic counts in spring 2019 when local schools were in session. Project transportation engineers, working closely with City transportation staff, then calibrated the count data based on historical information to better estimate the number of cars that would likely use Morrison Canyon Road were it open, thus obtaining a reasonable estimate used in the Existing Conditions scenario.

This page was intentionally left blank.



frm043.ai 3/20

Morrison Canyon Road Traffic Safety Project

Figure 3.6-2 – Existing Traffic Volumes

This page was intentionally left blank.

Vehicle Miles Traveled

Vehicle miles traveled for the trips that would be diverted by the proposed permanent closure of Morrison Canyon Road under Existing Conditions was derived based on the assumed trip assignment patterns and the number of vehicles traveling eastbound on Morrison Canyon Road and subsequently on to I-680. Based on these assumptions, the VMT under Existing conditions is 3,219 miles per day as shown below in Table 3.6-2.

Table 3.6-2. Existing Vehicle Miles Traveled

Segment	From	To	Daily Trips	Distance	VMT per Day
Mission Blvd	Niles Blvd	Walnut Ave	52	0.94	49
Mission Blvd	Mowry Ave	Walnut Ave	32	0.61	20
Morrison Canyon Rd	Mission Blvd	I-680	396	3.88	1,536
I-680	Vargas Rd	SR-84 (Sunol)	396	3.75	1,486
Mission Blvd	Stevenson Blvd	Walnut Ave	53	0.41	22
Mission Blvd	Driscoll Rd	Walnut Ave	42	1.62	69
Mission Blvd	I-680 Off-Ramps	Walnut Ave	13	2.84	37
Total					**3,219**

Source: W-Trans, 2020.

Public Transit Service

There are no existing transit routes that provide service directly along the project corridor. The following transit services are available in the project vicinity, within approximately one mile of the project corridor.

AC Transit

Alameda-Contra Costa County (AC) Transit provides fixed route bus transit service throughout the East Bay. There are numerous bus routes that run along major streets in Fremont, connecting to the adjacent cities of Union City and Newark. In the project area, Routes 99, 216, 217, 232, and 801 provide loop service to destinations throughout the City and stop on Mission Boulevard at various locations. These routes operate Monday through Friday with approximately 30 to 60 minute headways between 6:00 a.m. and 8:30 p.m. Saturday service operates with approximately 60-minute headways between 5:00 a.m. and 12:00 a.m. (AC Transit, 2019). Two bicycles can be carried on most AC Transit buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on AC Transit buses at the discretion of the driver.

Paratransit

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Paratransit is designed to serve the needs of individuals with disabilities within Fremont and the greater San Francisco Bay area.

Bicycle and Pedestrian Circulation

The City's bicycle network exists primarily within street rights-of-way. Many facilities are shared by bicycles and pedestrians and supplemented by off-road facilities in parks and along flood control channels.

Bicycle Conditions

Bicycle facilities consist of bicycle roadway markings, bicycle lanes, and multi-use trails or paths. The 2011 General Plan and the City of Fremont's 2018 Bicycle Master Plan identify existing and planned bicycle facilities in the vicinity of the project site (City of Fremont 2011, 2018). They are grouped into the following three categories of bicycle facilities:

- Class I facilities (bike path) are completely separated, with paved right-of-way (shared with pedestrians) which excludes general motor vehicle traffic.
- Class II facilities (bike lane) provide a striped and stenciled lane for one-way bike travel on a street or highway.
- Class III facilities (bike route) share a roadway with motor vehicle traffic and are only identified by signage.

Guidance for Class IV Bikeways is provided in draft *Design Information Bulletin Number 89-01: Class IV Bikeway Guidance* (Separated Bikeways/Cycle Tracks) (Caltrans, 2018).

- Class IV facilities (bikeway) also known as a separated bikeway, is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, Class II bike lanes exist on Mission Boulevard between the city limits with Union City and I-680. Bicyclists ride in the roadway and/or on sidewalks along Morrison Canyon Road and Walnut Avenue. Table 3.6-3, Existing and Planned Bicycle Facilities, summarizes the existing and planned bicycle facilities in the project vicinity per the *2018 Bicycle Master Plan*. As noted, the Plan calls for a Class I facility on Morrison Canyon Road, corresponding to the project area.

Table 3.6-3. Existing and Planned Bicycle Facilities

Facility	Status	Class	Length (miles)	Begin Point	End Point
Mission Blvd. North	Existing	II	5.60	Union City Limits	I-680
Walnut Ave.	Existing	IV	2.02	Mission Blvd.	Paseo Padre Pkwy
Walnut Ave.	Existing	II	2.08	Mission Blvd.	Argonaut Wy.
Morrison Canyon Rd.	Planned	I	0.76	Midpoint of Road	Vargas Rd.
Mission Blvd.	Planned	IV	9.60	Union City Limits	I-680
Walnut Ave.	Planned	IV	0.80	Paseo Padre Pkwy	Argonaut Wy.

Source: City of Fremont, *2018 Bicycle Master Plan*, 2018.

Existing use of Morrison Canyon Road by bicycle traffic is shown below in Table 3.6-4, Existing Bicycle Traffic Volumes on Morrison Canyon Road. Bicycle use of the roadway on weekends is

higher than on weekdays when bicyclists use the roadway for recreation and to access Vargas Plateau Regional Park. The bicycle traffic flow counts on Morrison Canyon Road were taken between the hours of 6:00 a.m. and 8:00 p.m. on twenty different days between the dates of January 27, 2018 and February 21, 2019.

Table 3.6-4. Existing Bicycle Traffic Volumes on Morrison Canyon Road

Date of Survey	Eastbound (EB) Daily Bicycle Volume Counts	Westbound (WB) Daily Pedestrian Volume Counts
Morrison Canyon Road 250' west of Canyon Heights Drive		
1/27/2018 (Sat)	33	12
1/28/2018 (Sun)	34	30
2/6/2018 (Tue)	29	20
2/7/2018 (Wed)	18	16
2/8/2018 (Thu)	17	16
Total on Average (rounded)	26	19
Morrison Canyon Road 1,100' east of Canyon Heights Drive		
10/23/2018 (Tue)	8	9
10/24/2018 (Wed)	4	3
10/25/2018 (Thu)	5	4
10/27/2018 (Sat)	24	16
10/28/2018 (Sun)	15	11
11/27/2018 (Tue)	5	4
11/28/2018 (Wed)	5	6
11/29/2018 (Thu)	0	0
12/01/2018 (Sat)	10	7
12/02/2018 (Sun)	23	20
02/09/2019 (Sat)	12	11
02/10/2019 (Sun)	11	12
02/19/2019 (Tue)	9	8
02/20/2019 (Wed)	8	9
02/21/2019 (Thu)	18	18
Total on Average (rounded)	10	9

Source: W-Trans, 2020.

Pedestrian Conditions

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, curb ramps, curb extensions, and various streetscape amenities such as lighting and benches. In general, there are few to no sidewalks or other pedestrian amenities (such as sidewalks, crosswalks, pedestrian signals, or curbs) within the project corridor. Sidewalk gaps can be found along some of the roadways (Morrison Canyon Road) connecting to the project corridor, and more specifically along the segment of Morrison Canyon Road which is temporarily closed. Sidewalk coverage is provided on Morrison Canyon Road between Mission Boulevard and approximately 350 feet east of the intersection at Yerba Buena Street. Sidewalks are provided along developed property frontages between Mission Boulevard and Yerba Buena Street accompanied by curb ramps at the majority of side street

approaches while lighting is provided by overhead streetlights. Sidewalks are not provided between Vargas Road and 350 feet east of Yerba Buena Street.

Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points. Also, Morrison Canyon Road is a well-used path by pedestrians for general recreation and to connect to Vargas Plateau Regional Park and other trails. The existing use of the narrow roadway as a shared path for pedestrians, bicycles, and vehicles affects the safety of pedestrians on Morrison Canyon Road.

Existing pedestrian traffic flow is relatively high in the project corridor, especially on weekends when more pedestrians use the roadway than cars (City of Fremont 2020). Table 3.6-5, Existing Pedestrian Traffic Volumes, shows pedestrian traffic flow counts on Morrison Canyon Road that were taken between the hours of 6:00 a.m. and 8:00 p.m. on twenty different days between the dates of January 27, 2018 and February 21, 2019.

Table 3.6-5. Existing Pedestrian Traffic Volumes on Morrison Canyon Road

Date of Survey	Eastbound (EB) Daily Pedestrian Volume Counts	Westbound (WB) Daily Pedestrian Volume Counts
Morrison Canyon Road 250' west of Canyon Heights Drive		
1/27/2018 (Sat)	67	71
1/28/2018 (Sun)	58	68
2/6/2018 (Tue)	20	28
2/7/2018 (Wed)	33	36
2/8/2018 (Thu)	32	56
Total on Average (rounded)	42	52
Morrison Canyon Road 1,100' east of Canyon Heights Drive		
10/23/2018 (Tue)	22	18
10/24/2018 (Wed)	29	31
10/25/2018 (Thu)	33	29
10/27/2018 (Sat)	46	47
10/28/2018 (Sun)	44	54
11/27/2018 (Tue)	25	23
11/28/2018 (Wed)	24	26
11/29/2018 (Thu)	14	14
12/01/2018 (Sat)	24	25
12/02/2018 (Sun)	62	54
02/09/2019 (Sat)	42	44
02/10/2019 (Sun)	71	66
02/19/2019 (Tue)	24	22
02/20/2019 (Wed)	26	24
02/21/2019 (Thu)	22	22
Total on Average (rounded)	34	33

Source: W-Trans, 2018 and 2019.

Vehicle Collision History

The vehicle collision history for the project corridor was compiled and reviewed to determine any trends or patterns that may indicate a safety issue. Vehicle collision rates were calculated based on records available from the City of Fremont (City of Fremont, 2019a, 2019b). The most current five-year period available is from May 28, 2014 to May 29, 2019. The data shows that in this time period there were a total of five collisions reported (two on Morrison Canyon Road near Canyon Heights Drive and three on Vargas Road). It is noted that cell phone usage is not widely available on some parts of the project corridor, therefore it is assumed that some vehicle collisions are unreported for this, and other reasons.

Bicycle and Pedestrian Collision History

The bicycle and pedestrian collision and accident history on Morrison Canyon Road from Canyon Heights Drive to Vargas Road was compiled and reviewed for the time period of January 1, 2009 to December 31, 2019 to determine any trends or patterns that may indicate a safety issue. According to the report, two bicycle incidents were reported to local law enforcement. One incident in 2009 was due to a bicyclist being "run off the road" that resulted in a severe injury; the other was an injury collision with an animal in 2010 (Fremont 2019c).

Road Closure History

The history of road closures on Morrison Canyon Road was compiled and reviewed for the time period of January 2014 to May 29, 2019 to determine any trends or patterns. Road closures are based on records available from the City of Fremont (City of Fremont Police Department 2019), and were due to impassible conditions because of incidents such as big rigs blocking the roadway (large vehicle's needing assistance), livestock on the roadway, landslide, tree fall, power line fall, vehicle accidents, or other events such as, debris cleanup/illegal dumping and emergency medical assistance. The records indicate a total of 24 closures during a four-and-a-half-year period, as shown below in Table 3.6-6.

Table 3.6-6. Road Closures on Morrison Canyon Road from January 2014–May 2019

Incident/Cause	Approximate Time Period
2014	
Large vehicle assistance	2 hours, 45 minutes
Rockslide covering 25% of the roadway	40 minutes
Large vehicle assistance	80 minutes
2015	
Livestock	40 minutes
Large vehicle assistance	4 hours
Hazardous waste debris/unlawful dumping	Unknown
2016	
Non-injury, vehicle collision	Unknown
Emergency medical assistance	3 hours
Tree fall	2.5 hours
Large vehicle assistance	90 minutes
2017	

Incident/Cause	Approximate Time Period
Power line down	Unknown
Tree fall and ATT lines down	4 hours
Large vehicle assistance	3 hours
Large vehicle assistance	43 minutes
Large vehicle assistance (school bus)	Unknown
Tree fall	2 hours
Tree fall and power line down	4 hours
Landslide	Unknown
Large vehicle assistance	30 minutes
Large vehicle assistance	4.5 hours
Large vehicle assistance	45 minutes
Livestock	30 minutes
2018	
Livestock	Unknown
2019	
Abandoned vehicle blocking road	50 minutes
Source: City of Fremont, Police Department, 2019.	

3.6.4 Impacts and Mitigation Measures

3.6.4.1 Methodology

Potential impacts associated with the proposed project were determined on the basis of vehicle trips generated or redistributed by permanent implementation of the proposed project, LOS operations at the study intersections, and analysis of changes to existing and forecasted cumulative conditions caused by the redistributed trips. The analysis is used to identify significant adverse impacts of the proposed project on the surrounding transportation system and to recommend appropriate mitigation measures. It is noted that the evaluation, comparisons, and all impacts are based on roadway conditions prior to the temporary, current road closure (as though the road were under regular operating conditions with no temporary barriers).

Trip Generation. The anticipated trip generation (or redistribution of trips) for the proposed project was estimated using segment counts that were recorded between October 23 and 25, 2018, as well as turning movement counts collected on April 29, 2019. The trip redistribution potential of the project as planned was developed using the aforementioned traffic counts. The pattern used to reallocate project trips to the street network was determined through the judgment of a qualified traffic engineer in collaboration with the City, and based on employment patterns for residents of the San Francisco Bay Area and the Tri-Valley Region gleaned from the 2010 Census data for work-to-home trips.

The study intersections were evaluated using the signalized methodology from the Highway Capacity Manual (HCM), published by the Transportation Research Board, part of the National Academy of Sciences. This nationally accepted methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average vehicle delay in seconds is used as the basis for evaluation in this LOS methodology. Under existing and background scenarios, traffic signal timing was obtained

from Caltrans and City of Fremont. For purposes of this study, delays were calculated using optimized signal timing for cumulative and cumulative plus project scenarios.

Table 3.6-7. Signalized Intersection Level of Service Criteria

LOS A	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
LOS B	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
LOS C	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
LOS D	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
LOS E	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
LOS F	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Source: Transportation Research Board, Highway Capacity Manual, 2000

Congestion Management Program (CMP) Segments. As discussed above, Alameda CTC mandates the evaluation of regional roadway facilities within the project study area that are designated in the CMP. For the proposed project, the CMP requirement of roadway LOS analyses does not apply because, although the project is projected to redistribute 150 trips during the p.m. peak hour, fewer than 100 trips are assumed to be added to the individual Metropolitan Transportation System (MTS) roadway segments as a result of the project. Therefore, the evaluation of regional roadway facilities within the project study area that are designated in the CMP are not analyzed in this EIR.

Cumulative Baseline Conditions

Cumulative turning movement counts for the horizon year of 2040 were derived from previously approved transportation impact reports, including the Hobbs Property Housing Development Transportation Impact Analysis. Additionally, where future turning movement volumes were not readily available, growth factors ranging between one-half (0.5)- and two (2)-percent per year were applied to the historical roadway segment volumes along Mission Boulevard, Mowry Avenue, Walnut Avenue, and Niles Boulevard.

The General Plan EIR Mitigation Monitoring Program (City of Fremont, 2011) identifies a mitigation measure at the Mission Boulevard (SR-238)/Mowry Avenue and Mission Boulevard (SR-238)/Niles Boulevard intersections (General Plan EIR Impact TRA-15). Based on the mitigation measures, the following changes will occur:

- Mowry Avenue eastbound at Mission Boulevard (SR-238) will be modified from one left, one through-left and one right turn lane to include two left-turn lanes and one through/right-turn lane;
- Mission Boulevard (SR-238) northbound at Mowry Avenue will be modified from one left- turn lane, two through lanes, and one shared right turn/through lane to one left-turn lane, one through lanes, and one shared through/right-turn lane;
- Mission Boulevard (SR-238) southbound at Mowry Avenue will change from having one left-turn lane, three through lanes and one right-turn lane to having one left-turn lane, four through lanes, and one shared through/right-turn lane; and

- At the Mission Boulevard (SR-238) / Niles Boulevard - Niles Canyon Road intersection, the traffic signal will be modified to include protected left-turn phasing, along with a change to the Niles Boulevard approach from a shared left-through-right lane and one right-turn lane to one right-turn lane and one shared left-through lane, which is expected to be remodeled within the available right-of-way and avoid relocation of utilities (General Plan EIR TRA-14).

For the purposes of identifying the potential impacts associated with the proposed project, these General Plan EIR mitigation measures are assumed to be fully implemented by 2040 and are included in the cumulative no-project and cumulative plus project scenarios.

Under these baseline conditions, the intersections located at Mission Boulevard/Mowry Avenue and Mission Boulevard/I-680 northbound ramps are expected to operate deficiently as LOS F. These results are summarized below in Table 3.6-8, below.

Table 3.6-8. Baseline Cumulative Peak Hour Intersection Levels of Service

	PM Peak Hour	
Study Intersection	**Delay**	**LOS**
Mission Blvd/Niles Canyon Rd	54.7	D
Mission Blvd/Mowry Ave	99.1	F
Mission Blvd/Walnut Ave-Morrison Canyon Rd	56.8	E
Mission Blvd/Stevenson Ave	79.3	E
Mission Blvd North/I-680 SB Ramps	45.9	D
Mission Blvd North/I-680 NB Ramps	134.9	F

Source: W-Trans, 2020.

Construction Activities

Construction of the proposed project, which includes installation of barriers and signage within the roadway and right-of-way, and the use of one to two pickup trucks, is expected to take approximately one day and would not significantly affect traffic conditions. Accordingly, no quantitative analysis of construction period traffic was conducted.

3.6.4.2 Significance Criteria

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, transportation impacts resulting from the implementation of the proposed project would be considered significant if a project would:

- Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

- Substantially increase hazards due to a design feature. (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Regarding the second checklist item, for the proposed project (as stated above), the CMP requirement of roadway LOS analyses are not required because less than 100 trips are assumed to be added to the individual Metropolitan Transportation System (MTS) roadway segments as a result of the project. As such, the CMP analysis is not required.

Regarding the third checklist item above, the proposed project would have no impact on air traffic patterns because the closest public use airports to the project corridor are Hayward Executive Airport and Livermore Municipal Airport, both located over 10 miles away (as indicated in Chapter 3.7, Other Resources). Thus, no impact would result and this issue is not further addressed in this EIR.

With respect to the first two Checklist Items above, the following thresholds of significance apply:

Intersections and Traffic Operation Standards

General Plan Policy 3-4.2 provides for variable LOS standards that recognize the character of adjacent land uses, differing functions of streets, and differing modes of transportation along streets. The City's LOS standard for acceptable intersection operation is generally defined as LOS D or better during peak hours for locations outside of the City Center, Town Centers, and Warm Springs/South Fremont BART Station area and LOS E for locations identified as a regional arterial in the Alameda County CMP (which includes all intersections considered in the analysis for this EIR).

For signalized intersections (which includes all intersections included in this analysis), the City utilizes the HCM methodology to evaluate intersection operations. The HCM methodology evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Control delay is the amount of delay that is attributed to the particular traffic control device at the intersection, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Significance criteria are used to establish what constitutes an impact.

Intersections along Mission Boulevard (SR-238) and Niles Canyon Road (SR-84) are maintained by Caltrans and are State highway facilities. As stated in the Caltrans' *Guide for the preparation of Traffic Impact Studies*: "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and "D" on State highway facilities, however, Caltrans acknowledges that may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing Measure of Effectiveness (MOE) should be maintained."[2] Because the City of Fremont is the lead agency for this project, the LOS standards and impact criteria used in this report were based on City standards, as they better reflect local traffic conditions and local planning priorities in

[2] Caltrans uses different Measures of Effectiveness (MOEs) to evaluate operations of different types of facilities. For example, both signalized and unsignalized intersections are analyzed based on average delay, in seconds, per vehicle; this average delay is measured as part of level of service analysis. For freeways and ramps, the Caltrans MOE is based on vehicle density per lane per mile, while for city streets, the MOE is vehicle speed.

Fremont. This approach is consistent with all previous traffic impact analyses conducted in the City of Fremont, and is also consistent with CEQA.

All of the six study intersections used in this analysis are signalized and on the CMP route, therefore the following standards apply to the proposed project. According to City standards, a project is said to create a significant adverse impact on traffic conditions at a CMP signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from LOS E or better under no project conditions to an unacceptable LOS F under project conditions; or
2. If the intersection is already operating at LOS F under no project conditions, the addition of the project causes the intersection average control delay to increase by more than four seconds per vehicle.

The justification for the use of a four-second increase in average vehicle delay as a trigger for significant impact (absent a degradation from acceptable to unacceptable LOS) is that a lesser change is unlikely to be perceptible to a typical motorist. Therefore, basing a significant effect on an increase in average vehicle delay of less than four seconds would overstate impacts.

A significant impact at a signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection levels of service to an acceptable LOS or restore the intersection to operating levels that are better than no project conditions.

Cumulative Conditions

Where an intersection is projected to operate unacceptably under cumulative baseline conditions (without the influence of project-added traffic), the project's impact is considered to be significant only if the intersection's average delay increases by four seconds or more. This is consistent with standards applied in the General Plan analysis.

Regarding the last checklist item above, the following thresholds of significance apply to transit monitoring:

Transit Monitoring

According to the CMP, Alameda CTC began monitoring transit performance on the Transit Monitoring Network in 2018 from a bus vehicle perspective. The travel time performance measure evaluates speeds of peak and non-peak bus services on the Transit Monitoring Network's roadway segments. The performance standard for the travel time measure is that average bus speeds should be at least 50 percent of prevailing auto speed or maintain or increase speed annually.

3.6.5 Impact Analysis

Impact TR-1: The proposed project would redistribute traffic volumes on the area roadway network, but would not exceed the capacity of the existing circulation system, based on the applicable measures of effectiveness. (Less than Significant)

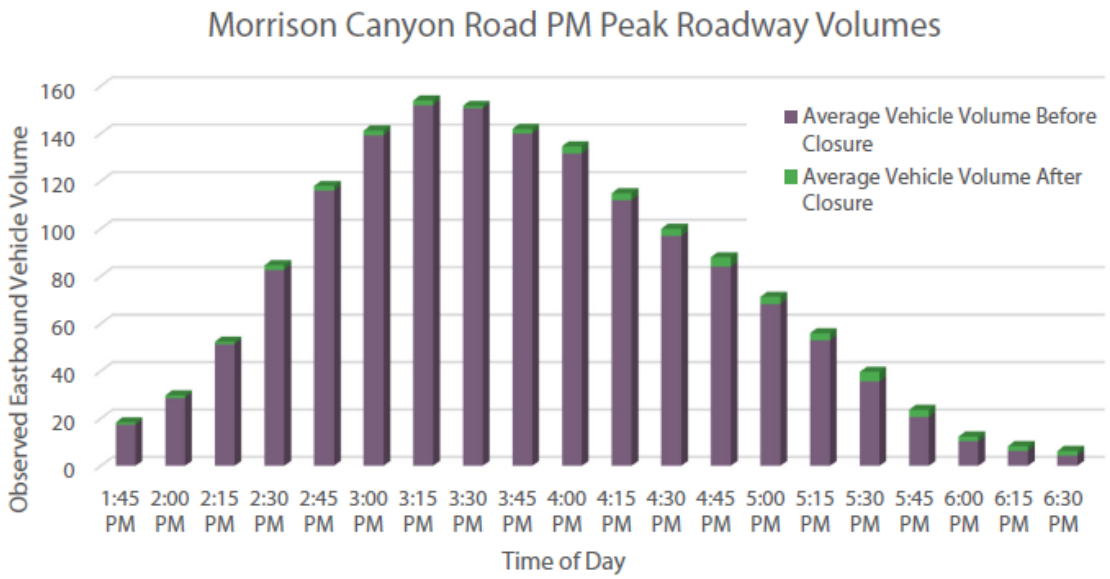
Trip Generation (Redistribution) Volumes

The nature of the project is such that there would not be generation of new trips (similar to a land use development), but there would be a redistribution of current trips from one roadway to others.

Based on the comparison of vehicle volume counts before and after the temporary closure of a portion of Morrison Canyon Road, the proposed project, which proposes permanent closure of the same roadway portion, is expected to generate (or redistribute to other roadways) an average of 396 trips per day, including 150 trips during the p.m. peak hour. The expected trip redistribution as a result of the road closure is based on the largest difference in average trips observed on Morrison Canyon Road before (October 2018) and after (November 2018) the temporary road closure.

While the largest trip generation rates in the project study area are typically expected to occur between the peak period hours of 4:00 p.m. and 6:00 p.m., the largest difference in trips observed for this project, due to the roadway closure, was observed between 3:15 p.m. and 4:15 p.m. (approximately 20 trips more than were observed during the typical peak period of 4:00 p.m. to 6:00 p.m.). For this reason, the difference of 150 trips was used for the analysis to conservatively account for the redistribution of trips attributable to the roadway closure (i.e., to use the worse-case scenario). The difference in trips is shown in Figure 3.6-3, below.

Figure 3.6-3. Morrison Canyon Road PM Peak Roadway Volumes



While the project's proposed permanent closure of a segment of Morrison Canyon Road would remove trips along that roadway segment, the majority of vehicles accessing Morrison Canyon Road are considered to be cut-through traffic attempting to by-pass northbound p.m. commute congestion along I-680 (W-Trans 2020). As a result, the trips which would be restricted from traveling along the closed segment of Morrison Canyon Road are assumed to be added back to the "typical" travel routes including Mission Boulevard, Niles Canyon Road, and I-680.

Project Trip Assignment

Review of the traffic volumes data along Morrison Canyon Road both before (four vehicles) and after (one vehicle) the temporary road closure showed a very low number of vehicles traveling westbound. For this reason, no westbound trips were assigned along the study roadways. The applied assumptions for trip distribution are shown below in Table 3.6-9, Trip Assignment Assumptions, and in Figure 3.6-4, Project Traffic Volumes, below. These are trips that assumedly

would use Morrison Canyon Road, but due to the proposed project would be re-routed to the other listed roadway segments in the table.

Table 3.6-9. Trip Assignment Assumptions

Roadway Segment	Daily Trips	Percent	PM Peak Hour Trips
From Mission Blvd north of Niles Canyon Rd (to SR-84)	26	7%	10
From Niles Canyon Rd west of Mission Blvd (to SR-84)	26	7%	10
From Mowry Ave west of Mission Blvd (to SR-84)	32	8%	12
From Walnut Ave west of Mission Blvd (to SR-84)	82	21%	31
From Walnut Ave west of Mission Blvd (to I-680)	122	31%	46
From Stevenson Ave west of Mission Blvd (to I-680)	53	13%	20
From South of Stevenson via Mission Blvd southbound	42	11%	16
From Mission Blvd south of I-680 On-Ramp (northbound)	13	3%	5
TOTAL	396	100%	150

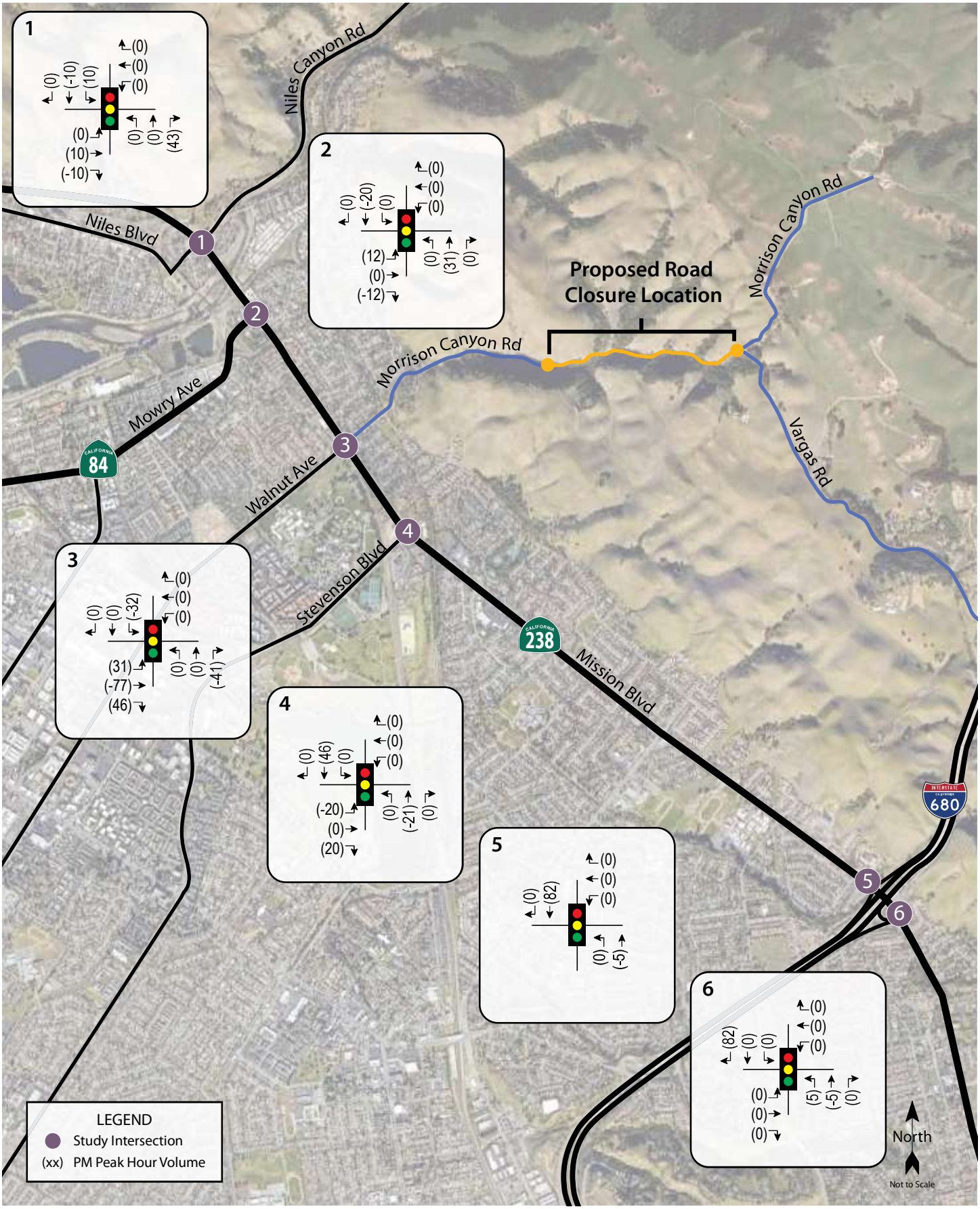
Source: W-Trans, 2020.

Vehicle Miles Traveled

Existing VMT in the project study area, prior to the temporary, current road closure on Morrison Canyon Road, is an estimated 3,219 miles per day, as shown in Table 3.6-10, Existing VMT, below.

VMT under existing plus project conditions are based on the redistributed trip pattern as a result of the proposed "middle" Morrison Canyon Road roadway closure, as well as the respective volumes along each route. Based on the trip pattern assumptions, the VMT under existing plus project conditions is expected to be 2,931 miles per day as shown below in Table 3.6-11, 2019 Existing Plus Project VMT, below.

Compared to existing conditions, the proposed project is expected to result in 396 redistributed daily trips. The Traffic Safety Study (W-Trans, 2020) assessment is that the trip redistribution would result in a decrease in VMT of 288 miles per day because the distances traveled by motorists would be shorter.



frm043.ai 3/20

Morrison Canyon Road Traffic Safety Project

Figure 3.6-4 – Project Traffic Volumes

This page was intentionally left blank.

Level of Service

Upon the redistribution of project-related traffic, the study intersections are expected to operate at LOS E or better. These results are summarized in Table 3.6-12, below. Project traffic volumes under existing plus project conditions are shown below in Figure 3.6-5, Existing Plus Project Traffic Volumes.

Table 3.6-10. Existing VMT

Segment	From	To	Segment Trips	Distance	VMT
Mission Blvd.	Niles Blvd.	Walnut Ave.	52	0.94	49
Mission Blvd.	Mowry Ave.	Walnut Ave.	32	0.61	20
Morrison Canyon Road	Mission Blvd.	I-680	396	3.88	1,536
I-680	Vargas Rd.	SR-84 (Sunol)	396	3.75	1,486
Mission Blvd	Stevenson Blvd.	Walnut Ave.	53	0.41	22
Mission Blvd	Driscoll Rd.	Walnut Ave.	42	1.62	69
Mission Blvd	I-680 Off-Ramps	Walnut Ave.	13	2.84	37
Total					3,219
Source: W-Trans, 2020.					

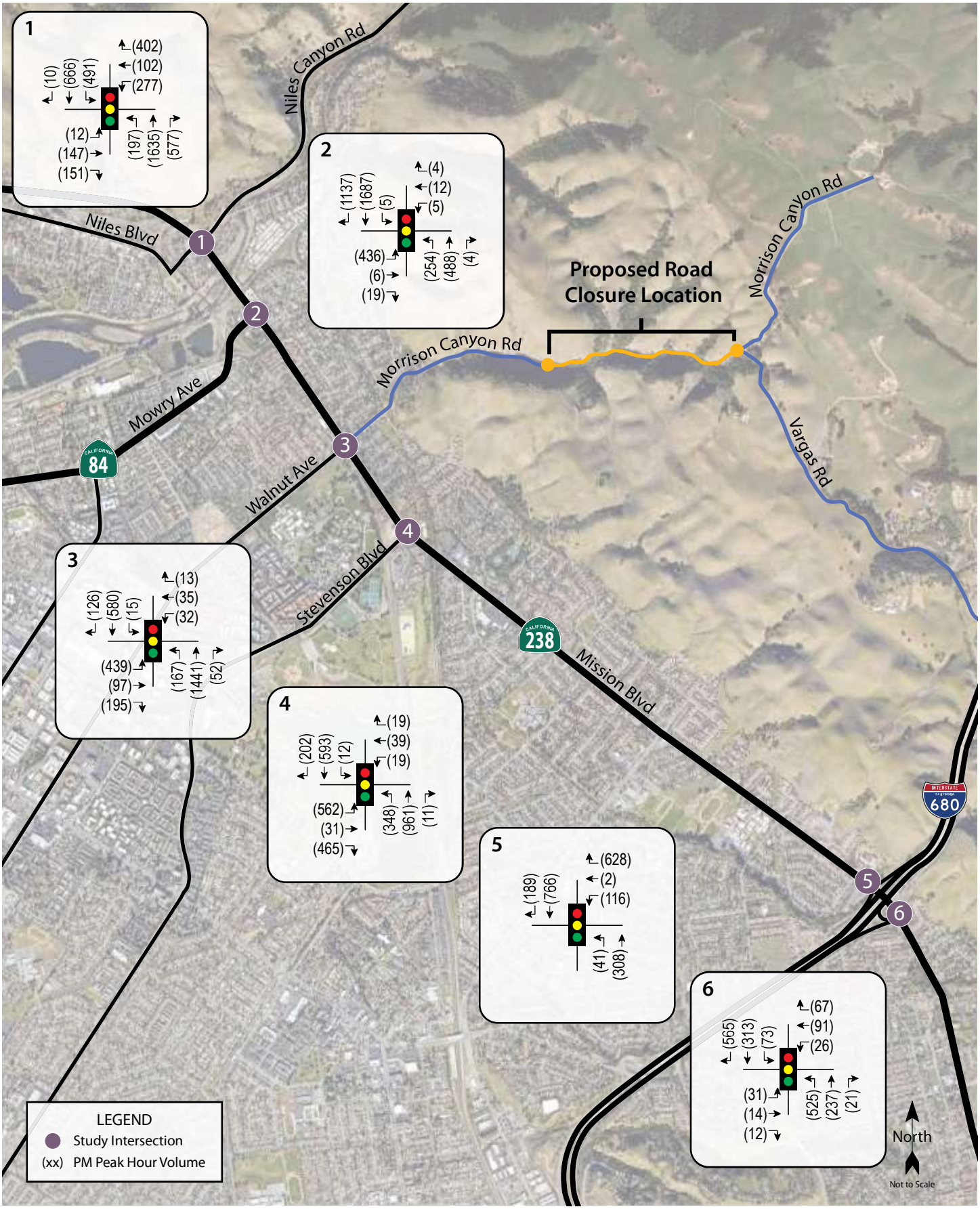
Table 3.6-11. 2019 Existing Plus Project VMT

Segment	From	To	Segment Trips	Distance	VMT
Niles Canyon Rd	Mission Blvd	I-680 (Sunol)	166	7.56	1,256
Mission Blvd	Mowry Ave	Niles Blvd	32	0.33	11
Mission Blvd	Walnut Ave	Niles Blvd	82	0.94	77
Mission Blvd	Walnut Ave	I-680	121	2.84	344
Mission Blvd	Stevenson Blvd	I-680	53	2.43	129
Mission Blvd	Driscoll Rd	I-680 Ramps	42	1.22	52
I-680	Mission Blvd	SR-84	230	4.61	1,062
Total					2,931
Source: W-Trans, 2020.					

Table 3.6-12. 2019 Existing and Existing Plus Project Peak Hour Level of Service

Study Intersection	Existing Conditions PM Peak Hour		Existing Plus Project PM Peak Hour	
	Delay	LOS	Delay	LOS
Mission Blvd/Niles Canyon Rd	42.6	D	42.6	D
Mission Blvd/Mowry Ave	58.8	E	59.6	E
Mission Blvd/Walnut Ave	35.2	D	32.6	C
Mission Blvd/Stevenson Ave	42.1	D	41.9	D
Mission Blvd North/I-680 SB Ramps	24.4	C	24.2	C
Mission Blvd North/I-680 NB Ramps	27.9	C	30.2	C

Source: W-Trans, 2020.
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service



frm043.ai 12/19

Morrison Canyon Road Traffic Safety Project

Figure 3.6-5 Existing plus Project Traffic Volumes

W-Trans

This page was intentionally left blank.

It is noted that with the redistribution of project-related traffic volumes, the average delay at the intersections including Mission Boulevard/Walnut Avenue, Mission Boulevard/Stevenson Avenue, and Mission Blvd/I-680 SB Ramps would decrease slightly during the p.m. peak hour.

While such a result may appear to be counter-intuitive, this condition occurs when a project adds trips to movements that are currently underutilized or have delays that are below the intersection average, resulting in a better balance between approaches and lower overall average delay. If a project adds traffic predominantly to the right-turn or through movement, which has an average delay that is lower than the average for the intersection as a whole, then it can result in a slight reduction in the overall average delay. The conclusion could incorrectly be drawn that the project actually improves operation based on this data alone; however, it is more appropriate to conclude that the project trips are expected to make use of excess capacity. Therefore, drivers individually will experience little, if any, change in conditions as a result of the proposed project.

Upon applying redistributed project trips to existing condition volumes, the study intersections are expected to continue operating acceptably during the p.m. peak hour. Therefore, the proposed project would redistribute traffic volumes on the area roadway network, but this would not result in an exceedance of the capacity of the existing circulation system, based on the applicable measures of effectiveness. Impact TR-1 would be a **less than significant**.

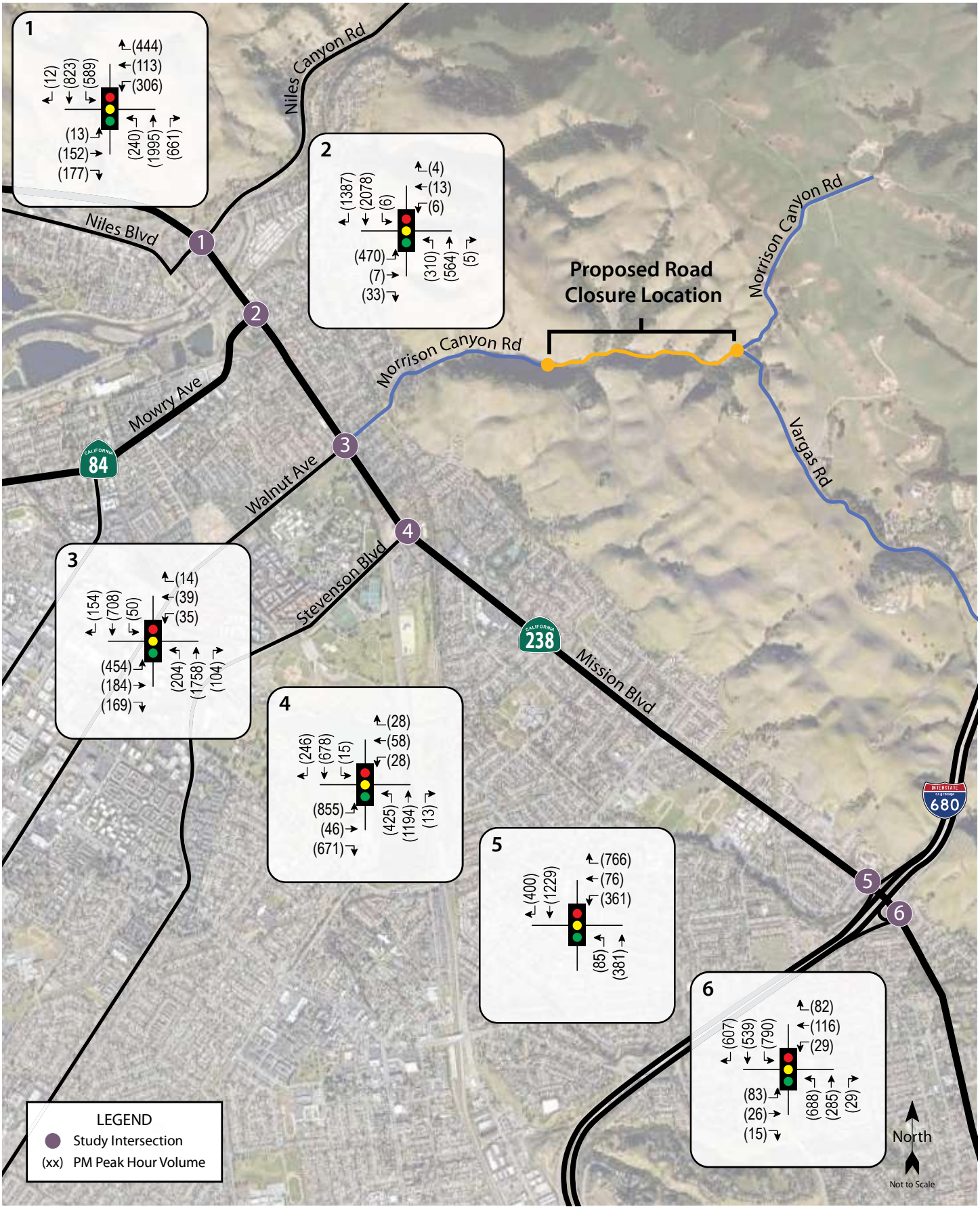
Impact TR-2: The proposed project, combined with 2040 cumulative conditions, including contributions from past, present, and reasonably foreseeable future development, would not result in further exceedance of the already-unacceptable capacity of the existing circulation system, based on the applicable measures of effectiveness. (Less than Significant)

Under cumulative plus project conditions, which includes project-related redistributed traffic added to 2040 cumulative volumes, the study intersections are expected to operate at acceptable levels, with the exception of Mission Boulevard/Mowry Avenue. Even with implementation of the General Plan EIR mitigation measures discussed above under 3.6.3, Environmental Setting, the intersection at Mission Boulevard/Mowry Avenue would continue to operate at LOS F during the p.m. peak hour under cumulative plus project conditions. With the redistribution of project-related traffic volumes, the average delays at the intersections of Mission Boulevard/Mowry Avenue, Mission Boulevard/Walnut Avenue, Mission Boulevard/Stevenson Avenue, and Mission Blvd North/I-680 NB Ramps would slightly decrease during the p.m. peak hour under cumulative conditions. It is noted that the reduction in delay at the intersection of Mission Boulevard/Mowry Avenue is not only due to the redistribution of project-related traffic, but also due to the assumed changes to signal timing applied to the intersection. These conditions are summarized in Table 3.6-13 and shown in Figure 3.6-6, Cumulative Traffic Volumes, and Figure 3.6-7, Cumulative plus Project Traffic Volumes.

Table 3.6-13. Cumulative and Cumulative Plus Project Peak Hour Levels of Service

Study Intersection	Cumulative Conditions PM Peak		Cumulative Plus Project PM Peak		Impact Level
	Delay	LOS	Delay	LOS	
Mission Blvd/Niles Canyon Rd	76.5	E	77.8	E	No Impact
Mission Blvd/Mowry Ave	**99.1**	**F**	**82.1**	**F**	Less than Significant
Mission Blvd/Walnut Ave	56.8	E	40.8	D	No Impact
Mission Blvd/Stevenson Ave	79.3	E	78.5	E	No Impact
Mission Blvd/I-680 SB Ramps	45.9	D	47.7	D	No Impact
Mission Blvd North/I-680 NB Ramps	67.4	E	77.7	E	Less than Significant

Notes: Delay is measured in average seconds per vehicle; **Bold** text = deficient operation.
Source: W-Trans, 2020.



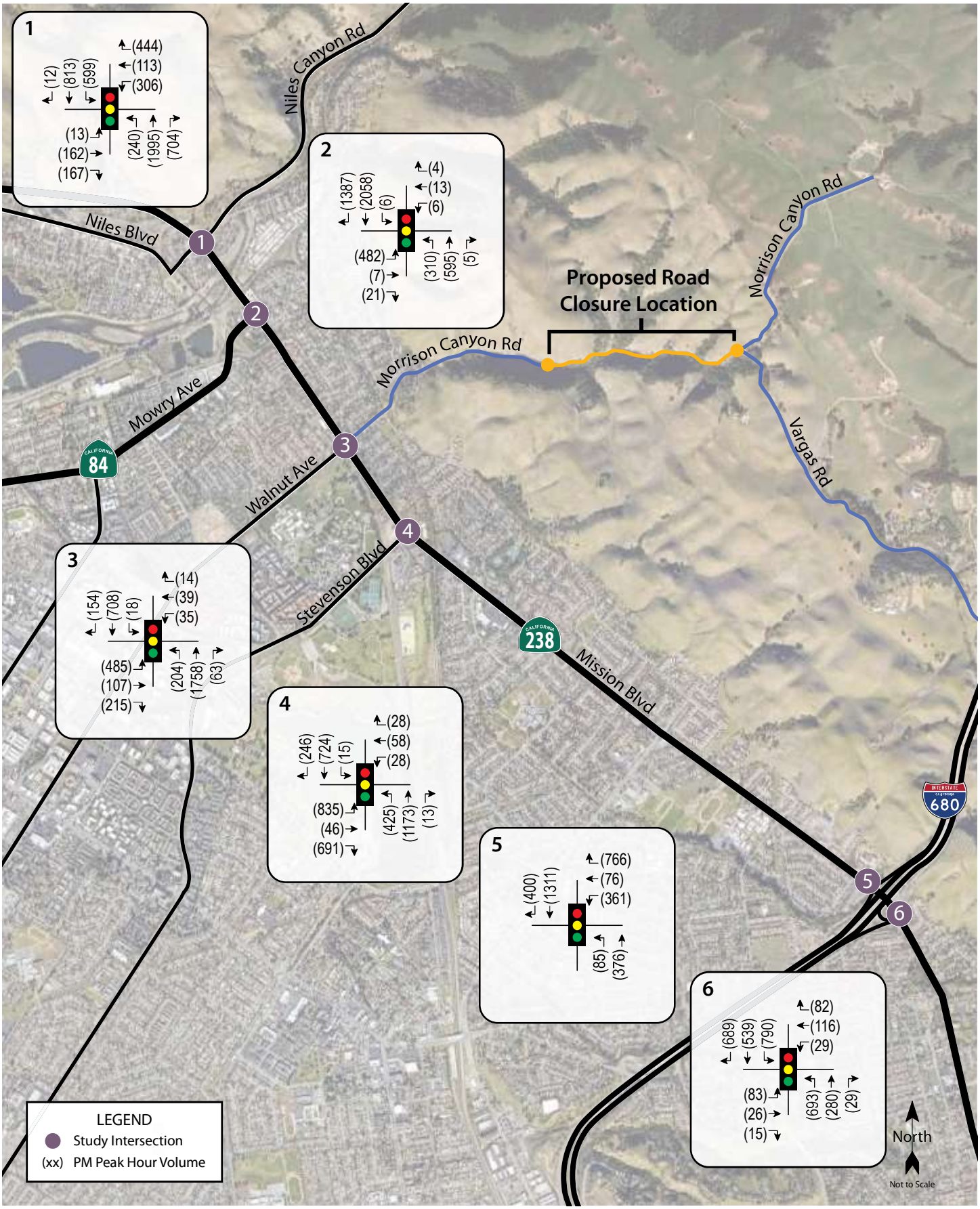
frm043.ai 12/19

Morrison Canyon Road Traffic Safety Project

Figure 3.6-6 Cumulative Traffic Volumes

W-Trans

This page was intentionally left blank.



frm043.ai 12/19

Morrison Canyon Road Traffic Safety Project

Figure 3.6-7 Cumulative plus Project Traffic Volumes

W-Trans

This page was intentionally left blank.

Although LOS F is expected to remain at the intersection of Mission Boulevard/Mowry Avenue under cumulative plus project conditions, delay conditions are expected to improve. This is largely due to the change in intersection geometry associated with the General Plan EIR recommended mitigation measures, discussed above, which would occur with or without the proposed project. Therefore, with the project's redistribution of trips plus 2040 Cumulative Conditions, study intersections are expected to continue operating acceptably during the p.m. peak hour at LOS E or better with the exception of Mission Boulevard/Mowry Avenue. The intersection of Mission Boulevard/Mowry Avenue would operate at LOS F during the p.m. peak hour under cumulative conditions, without the proposed project, which is considered unacceptable. Therefore, with or without the project, the intersection of Mission Boulevard/Mowry Avenue would continue to operate below acceptable levels of service. The project would not worsen this significant cumulative impact, so its contribution would thus not be considerable. No mitigation is necessary.

Impact TR-3: The proposed project would not substantially increase hazards due to a design feature or incompatible uses and would decrease potential hazards to bicyclists and pedestrians. (Less than Significant)

On Morrison Canyon Road, bi-directional automobile traffic has markedly increased since 2016, as evening, weekday commuters have sought to avoid traffic along I-680 and/or Mission Boulevard. The proposed project would permanently close a 0.75-mile segment of Morrison Canyon Road to vehicle traffic from the "middle" or midpoint of Morrison Canyon Road to Vargas Road. Three main objectives of the project (refer to Chapter 2, *Project Description*) are to "improve safety conditions along," "substantially reduce the occurrence of two-way automobile traffic on," and "substantially reduce conflicts between vehicles and pedestrians/bicyclists on" Morrison Canyon Road. These objectives would be achieved by permanently retaining the now temporarily erected, flexible plastic barricades that are across the roadway at the intersections of Morrison Canyon Road and Ridge Terrace and Morrison Canyon Road and Vargas Road (refer to **Figure 2-1**). Signs posted with light beacons would be installed on the side of the road to warn motorists of the upcoming road closure on Morrison Canyon Road near Canyon Heights Drive and at the intersections of Morrison Canyon Road with Ridge Terrace and Vargas Road. The barricades would be mountable by emergency vehicles and standard vehicles in emergency situations, and navigable by bicycle and pedestrian traffic, who would be allowed to access the roadway. Therefore, the proposed barricades, that are included as part of the project, would not substantially increase hazards due to their design or incompatible use. In fact, it is expected that removing automobile access with these design features to this very narrow portion of Morrison Canyon Road would decrease collision hazards between vehicles, pedestrians, and bicyclists because the potential for interactions with motor vehicles would be substantially reduced. This is a major benefit and motivation for the proposed project that is expected to increase the safety of the roadway for all users. As such, Impact TR-3 would be **less than significant**.

Impact TR-4: The proposed project would not result in inadequate emergency access. (Less than Significant)

The proposed project would permanently close a 0.75-mile segment of Morrison Canyon Road to vehicle traffic from the middle or midpoint of Morrison Canyon Road to Vargas Road through the permanent installation of flexible plastic barricades with a inged base that can be mounted by most motor vehicles and is navigable for pedestrians and bicyclists. The roadway would remain fully accessible for emergency fire and police response purposes and would also allow access for residents in standard vehicles in emergency situations. Also, refer to 3.7.7, *Hazards and Hazardous*

Materials, which states that the project would have a less-than-significant impact on interference with an adopted emergency response or evacuation plan, or with emergency response capabilities.

Larger evacuations in the project vicinity would likely be directed along either I-680 or Niles Canyon Road/State Highway 84, a full-service two-lane east/west road, and not along Morrison Canyon Road. The project would allow Morrison Canyon Road to remain accessible during emergencies, similar to conditions under the temporary road closure. Therefore, the proposed project would not result in inadequate emergency access and Impact TR-4 is **less than significant.**

Impact TR-5: The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)

There are no existing transit routes which provide service along the project roadway. However, the project would result in additional vehicles traveling along specific sections of Mission Boulevard due to the redistribution of trips caused by the project. The project would not result in the removal and/or relocation of transit facilities, nor would it result in a decrease in access. The additional vehicles added to Mission Boulevard are not expected to significantly impact transit accessibility or travel speeds. Additionally, the project would support the goals of the City's Vision Zero policy, the *General Plan*, *2018 Bicycle Master Plan*, and *Pedestrian Master Plan* in terms of safety and accessibility for alternatives modes of travel such as biking and walking.

The proposed project would allow for the closed segment of Morrison Canyon Road to be converted to a Class I bikeway. Therefore, because transit facilities serving the project site are expected to remain the same with or without the proposed project, and because bicycle and pedestrian safety and access would be improved on Morrison Canyon Road with the project, Impact TR-5 is considered **less than significant**.

3.6.6 References

Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), 2017, *Plan Bay Area 2040 Final*, Available: http://2040.planbayarea.org/cdn/ff/buje2Q801oUV3Vpib-FoJ6mkOfWC9S9sgrSgJrwFBgo/1510696833/public/2017-11/Final_Plan_Bay_Area_2040.pdf, Accessed 11/20/2019.

AC Transit, 2019, Website, Available: http://www.actransit.org/actrealtime/, Accessed 11/18/2019.

Alameda County Transportation Commission (ACTC), 2019, Congestion Management Program, Available: https://www.alamedactc.org/planning/congestion-management-program/, Accessed 11/20/2019.

California Department of Transportation (Caltrans), 2018, *Draft Design Information Bulletin Number 89-01: Class IV Bikeway Guidance (Separated Bikeways/Cycle Tracks)*, Available: https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/bike/2018/draft-dib-89-01-20180130.pdf. Accessed 11/18/2019.

Fremont, City of, 2016, City of *Fremont Pedestrian Master Plan*, Available: https://www.fremont.gov/DocumentCenter/View/34685/Fremont_PedPlan_Final-Adopted_Dec2016_Low-Res?bidId=. Accessed 2/26/2020.

Fremont, City of, 2011, *General Plan, Mobility, Chapter 3*. Available: https://www.fremont.gov/DocumentCenter/View/4666/03-Mobility?bidId=. Accessed 11/18/2019.

Fremont, City of, 2011, *General Plan, Parks & Recreation, Chapter 8*. Available: https://www.fremont.gov/DocumentCenter/View/4672/08-Parks-and-Recreation?bidId=. Accessed 2/27/2020.

Fremont, City of, 2016, *Fremont Vision Zero 2020, Status Report and Action Plan,* Available: https://fremont.gov/DocumentCenter/View/29505/Vision-Zero-2020-Final?bidId=. Accessed 11/18/2019.

Fremont, City of, 2018a, *2018 Bicycle Master Plan*, Available: https://fremont.gov/3151/Bicycle-Master-Plan, Accessed 11/14/2019.

Fremont, City of, 2018b, May, *Niles Gateway Mixed-Use Project DEIR*, prepared by ESA.

Fremont, City of, 2019a, *Collision Summary Report, Morrison Canyon Road*.

Fremont, City of, 2019b, *Collision Summary Report, Vargas Road.*

Fremont, City of, 2019c, Collision Summary Report, Morrison Canyon Road from Canyon Heights Drive to Vargas Rd.

Fremont, City of, 2019d, Fremont Municipal Code, Title 10 Vehicle and Traffic, Available: https://www.codepublishing.com/CA/Fremont/#!/Fremont10/Fremont10.html, Accessed 12/20/2019.

Fremont, City of, 2020, *Morrison Canyon Road Volume Data*, Available: https://fremont.gov/3115/Morrison-Canyon-Road-Traffic-Safety-Proj, Accessed 1/16/2020.

Fremont, City of, Police Department, 2019, Email from Ariel Quimson, Police Lieutenant–Traffic Unit, May 29, 2019.

W-Trans, 2020, *Morrison Canyon Road Traffic Safety Study*.

This page was intentionally left blank.

3.7 Other Resources

Pursuant to CEQA Section 15128, this section provides a brief explanation of potential effects of the project that were found to be less than significant. This section is based on the Notice of Preparation (NOP), dated October 4, 2019, and contained in Appendix A of this Draft EIR. The NOP was prepared to identify the potentially significant effects of the proposed project and was circulated for public review between October 4 and November 4, 2019.

Sections 3.1, *Air Quality*; 3.2, *Noise and Vibration*; 3.3, *Greenhouse Gases*; 3.4, *Land Use and Planning*; 3.5 *Public Services*; and 3.6, *Transportation and Circulation*, address in greater detail the topics where the project could have the greatest potential environmental effect. Based on the comments received in response to the NOP, as well as subsequent analysis conducted as part of this EIR, the project would result in less-than-significant impacts in all of the other CEQA topic areas. For each of these 'Other Resources', a brief setting and discussion of potential impacts is provided below.

3.7.1 Aesthetics

3.7.1.1 Project Setting

The project vicinity is rural, surrounded by steep hills, ridgelines, grasslands, and agricultural (grazing) land. From the project corridor, ridgeline views are limited due to steep slopes on one side and Morrison Canyon on the other side. Morrison Canyon is a steep canyon that supports substantial forest and contains Morrison Creek. Vargas Plateau Regional Park borders the northern side of Morrison Canyon Road along the hillsides and ridges; thus, it is possible to observe the project area from portions of the park.

The proposed project is located within the Hill Area, a Fremont community with substantial visual and aesthetic resources including hillsides, ridgelines, and trees (City of Fremont 2011). The City of Fremont General Plan establishes a Hill Area goal to "preserve Fremont's hills as scenic open space". In both 1981 and 2002, City residents approved Hill Area protection measures, Measures A and T (discussed below), that limit development in the area to preserve the area's scenic qualities (City of Fremont 2011). Currently, most of the land along the northern boundary of the project corridor is preserved within Vargas Plateau Regional Park, which limits potential development in the project vicinity (East Bay Regional Parks District 2018). The General Plan does not specify exact routes but notes that certain routes and roadways may be considered scenic based on the surrounding terrain. Morrison Canyon Road is not a state-designed scenic corridor or highway and is not a City-designated scenic route according to the General Plan. However, Morrison Canyon Road's historic use as a dirt or gravel livestock trail providing limited access to upper Ridge Terrace and the rural hillside properties north of its intersection with Vargas Road is consistent with the surrounding scenic Hill Area character. There are no designated scenic vistas in the project area; the nearest scenic corridor is Niles Canyon Road (State Route 84), located approximately one mile north of the project area. The portion of Interstate 680 south of Vargas Canyon Road is also a designated scenic corridor (City of Fremont 2011).

There are no permanent manmade light sources (i.e., streetlights, stop lights) on Morrison Canyon Road or intersections with Morrison Canyon Road that provide existing sources of light or glare.

There are no residences or properties directly adjacent to the project alignment. The property boundary of the residence closest to the project corridor is approximately 0.1 miles from the proposed closure at the intersection of Morrison Canyon Road and Vargas Road. There is a residential property located approximately 50 feet from the intersection of Morrison Canyon Road and Canyon Heights Drive, where signage is proposed. Other sources of light and glare within the project area are limited to temporary sources from passing vehicles.

The General Plan includes the following policies pertaining to visual and aesthetic resources in the project area, which are intended to minimize the visual impact of development within the area (City of Fremont 2011):

Policy 4-5.5: Scenic Routes. Maintain a network of designated scenic routes through Fremont. The visual features which contribute to scenic designations should be protected through land use, transportation, and capital improvement decisions, as well as landscaping, operations, and maintenance activities along these corridors.

Goal 2-6: Open Space. An open space "frame" around Fremont, complemented by local parks and natural areas, which together protect the City's natural resources, provide opportunities for recreation, enhance visual beauty, and shape the City's character.

Policy 2-6.2: Hill Area Initiatives. Adhere to the Fremont provisions of the 1981 voter-approved Measure A Initiative and the 2002 voter-approved Measure T Initiative, both of which are officially part of the Fremont Municipal Code, when making land use decisions for the Fremont hill area. These provisions impose more restrictive requirements on hill area development than would otherwise apply in designated open space areas.

Measure A, approved by Fremont voters in 1981, formally amended the text of the General Plan to add definitions of the "Hill Area," "Ridgeline," "Toe of the Hill," and "Hill Face." The General Plan Map was likewise amended to depict these features and reduce allowable hillside densities. The intent of the ordinance was to protect the agricultural, recreational, and low-density character of the Hill Area and provide special protection to visually sensitive features such as the western hill face and ridgeline. The measure generally applies to land east and north of Mission Boulevard and I-680.

Measure T, approved by voters in 2002, established additional limits on hillside development and incorporated further language into the General Plan. The changes included new minimum parcel sizes for the Hill Area and the City's sphere of influence. Additional use restrictions were established and further safeguards were placed on areas of special environmental concern. The measure includes provisions for clustering of allowable density, restrictions on lot line adjustments and maximum floor area, and requirements for conservation easements. The area covered by the ordinance was slightly different than the area covered by Measure T, focusing more specifically on lands above the Toe of the Hill.

3.7.1.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

a: Less than Significant Impact

The proposed project would permanently close middle Morrison Canyon Road to private motor vehicle traffic through the installation of barricades within the existing roadway and signage with solar-powered beacons in the adjacent right-of-way at Morrison Canyon Road's intersections with Ridge Terrace and Vargas Road (see **Figure 2-2**). Although Morrison Canyon Road is located within Fremont's Hill Area, an area known for its rural aesthetic resources, installation of the proposed, new roadway features would not have a substantial adverse effect on a scenic vista because there are no designated scenic vistas in the project area. The features would be publicly visible only from the immediate vicinity of the intersections of Morrison Canyon Road and Vargas Road, Morrison Canyon Road and Ridge Terrace, and Morrison Canyon Road and Canyon Heights Drive. Views from Vargas Plateau Regional Park would not be affected. Thus, the project's impact on scenic vistas would be **less than significant** and no mitigation would be needed.

b: No Impact

The proposed project would not involve any activities or installations that would directly alter or degrade scenic resources such as trees, outcroppings, or historic resources along a scenic highway. Therefore, there would be **no impact**.

c-d: Less than Significant Impact

As described above, proposed project activities would be restricted to installation of barricades within the existing roadway and signage with solar-powered light beacons in the right-of-way, as displayed in **Figure 2-2**. The introduction of these features in the project area could potentially degrade the surrounding rural Hill Area character. However, because project features would be installed within the disturbed and existing roadway and right-of-way, the project would not substantially degrade the existing visual character or quality of the project area. Furthermore, the project features are relatively small in scale. From a distance, the project features would blend in with the existing roadway and are not likely to be discernable from surrounding vistas in Vargas Plateau Regional Park.

The introduction of project features could potentially introduce a new source of light and glare. However, the proposed light beacons would be motion-activated, making any light emissions from them both minimal and temporary. Also, the beacons would be positioned to ensure that light is directed only towards the immediate roadway. Daytime glare from sunlight and nighttime glare from headlights on the new signage would also be minimal and temporary because the signs are relatively small and would likely only cast new light and glare within the roadway right-of-way for short periods of time. No nearby residences would be affected by new light and glare. Visitors at Vargas Plateau Regional Park would not be affected by new light and glare.

Other sensitive receptors, including drivers, bicyclists, and pedestrians, would notice the new project features within the roadway and may experience new light and glare, but not to a significant extent because project features would blend in with the existing roadway and any new light and glare would be minimal and fleeting. Therefore, the project's impact on existing visual character or quality of public views and the introduction of a new source of light and glare that would adversely affect daytime or nighttime views in the area would be **less than significant**. No mitigation would be necessary.

3.7.1.3 References

City of Fremont. 2011. City of Fremont General Plan. Available at https://fremont.gov/398/General-Plan. Accessed May 24, 2019.

East Bay Regional Parks District. 2018. Vargas Plateau Regional Park. Available at https://www.ebparks.org/parks/vargas/default.htm. Accessed May 24, 2019.

3.7.2 Agriculture and Forestry Resources

3.7.2.1 Project Setting

The project corridor is surrounded by California Department of Conservation-designated grazing land on its northern and southern boundaries; at its eastern and western boundaries, the project corridor is bounded by the eastern and western continuations of Morrison Canyon Road, respectively (State of California Department of Conservation 2016). However, according to the California Department of Conservation, the project site and adjacent lands do not contain Prime Farmland, Unique Farmland, or Farmlands of Statewide Importance. Neither the project corridor nor any adjacent lands are under a Williamson Act contract or zoned for any agricultural or forestry use (State of California Department of Conservation 2016).

3.7.2.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a-e: No Impact

The proposed project's construction and operations would not interfere with grazing land, Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or farmland under Williamson Act contract and would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, **no impacts** to agriculture and forestry resources would occur.

3.7.2.3 References

State of California Department of Conservation. 2016. California Important Farmland Finder. Available at https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed September 20, 2019.

3.7.3 Biological Resources

3.7.3.1 Project Setting

Morrison Canyon Road, the intersections of Morrison Canyon Road and Ridge Terrace and Morrison Canyon Road and Vargas Road, and the surrounding rights-of-way that make up the project corridor are fully paved with asphalt or disturbed roadbed and do not support any natural communities. The project area is located immediately north of Morrison Creek, an intermittent/ephemeral stream; some nearby unnamed intermittent/ephemeral streams cross Morrison Canyon Road to drain to Morrison Creek (NWI 2019).

The project corridor falls within the area covered under PG&E's *Bay Area Operations and Maintenance Habitat Conservation Plan,* which identifies the vicinity surrounding the project corridor as Sausal Willow Grove woodlands and Annual Grassland. Also, Vargas Plateau Regional Park, located immediately north of the 0.5-mile mark of the project corridor, is known to support Northern Coastal Scrub and Coast Live Oak/Bay Laurel woodland (State of California Coastal Conservancy 2019, ICF 2017). These native natural communities, as well as other natural communities in the surrounding vicinity could serve as potential habitat for migratory birds and other species.

Based on a California Natural Diversity Database (CNDDB) search of the Niles Quadrangle and a supplemental search using the United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) search in Alameda County, Table 3.7-1 describes special status species that are known to occur or that are reasonably likely to occur within the project vicinity in the Niles Quadrangle.

The project corridor, which is fully paved or disturbed, does not support natural habitat for any of these species. However, some species may forage in the vicinity or cross the project corridor when moving between natural habitat areas.

There is no USFWS-designated critical habitat for federally protected species within the project corridor. The nearest known critical habitat is for Alameda whipsnake (FT, CT), approximately 1.5 miles north of the project area. There is also critical habitat for California red-legged frog approximately 4.5 miles southeast and approximately 5 miles north of the project area (USFWS 2019b).

Table 3.7-1. Special Status Species in the Niles Quadrangle

Common Name	Scientific Name	Threat Ranking
Birds		
Alameda Song Sparrow	*Melospiza melodia pusillula*	SSC
Bald Eagle	*Haliaeetus leucocephalus*	CE, FP, BCC, BGEPA
California Black Rail	*Laterallus jamaicensis coturniculus*	CT, FP, BCC
California Ridgway's (Clapper) Rail	*Rallus longirostris obsoletus*	FE, CE, FP
California Least Tern	*Sterna antillarum browni*	FE, CE, FP
Cooper's Hawk	*Accipiter cooperii*	WL
Golden Eagle	*Aquila chrysaetos*	FP, WL, BCC, BGEPA
Oak Titmouse	*Baeolophus inornatus*	BCC
Rufous Hummingbird	*Selasphorus rufus*	BCC
Tricolored Blackbird	*Agelaius tricolor*	Candidate E, SSC, BCC
Western Yellow-Billed Cuckoo	*Coccyzus americanus*	FT, CE, BCC
Mammals		
Pallid bat	*Antrozous pallidus*	SSC
San Francisco dusky-footed woodrat	*Neotoma fuscipes annectens*	SSC
San Joaquin kit fox	*Vulpes macrotis mutica*	FE, CT
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC
Reptiles and Amphibians		
Alameda whipsnake (striped racer)	*Masticophis lateralis euryxanthus*	FT, CT
California tiger salamander	*Ambystoma californiense*	FT, CT, WL
California red-legged frog	*Rana draytonii*	FT, SSC
Foothill yellow-legged frog	*Rana boylii*	Candidate T, SSC
Western pond turtle	*Emys marmorata*	SSC
Invertebrates		
Bay checkerspot butterfly	*Euphydryas editha bayensis*	FT
San Bruno elfin butterfly	*Callophrys mossii bayensis*	FE
Plants		
Bay buckwheat	*Eriogonum umbellatum* var. *bahiiforme*	4.2
Bristly leptosiphon	*Leptosiphon acicularis*	4.2
California seablite	*Suaeda californica*	FE, 1B.1
Chaparral harebell	*Campanula exigua*	1B.2
Congdon's tarplant	*Centromadia parryi* ssp. *congdonii*	1B.1
Long-styled sand-spurrey	*Spergularia macrotheca* var. *longistyla*	1B.2
Most beautiful jewelflower	*Streptanthus albidus* ssp. *Peramoenus*	1B.2
San Antonio Hills monardella	*Monardella antonina* ssp. *antonina*	
San Joaquin spearscale	*Extriplex joaquinana*	1B.2
Santa Clara red ribbons	*Clarkia concinna* ssp. *Automixa*	4.3
Slender-leaved pondweed	*Stuckenia filiformis* ssp. *alpine*	2B.2

Sources: CNPS 2019, CNPS n.d., CDFW 2019a, CDFW 2019b, CDFW n.d., USFWS 2008, USFWS 2019a.

Notes:
The CNPS Rare Plant Ranks are based on the following designations. Rare Plant Ranks are followed by a Threat Rank indicator (0.1, seriously threatened in California; 0.2, moderately threatened in California; or 0.3, not very threatened in California).

1A	= Plants presumed extirpated in California and either rare or extinct elsewhere
1B	= Plants rare, threatened, or endangered in California and elsewhere
2A	= Plants presumed extirpated in California but common elsewhere
2B	= Plants rare, threatened, or endangered in California but more common elsewhere
3	= Review List (plants about which more information is needed)
4	= Watch List (plants of limited distribution)

Key:

SSC	= Species of Special Concern
CE/CT	= California Endangered/California Threatened
FE/FT	= Federally Endangered/California Threatened
FP	= Fully Protected
BCC	= Birds of Conservation Concern
WL	= Watch List
BGEPA	= Bald and Golden Eagle Protection Act
Candidate E/T	= Candidate Endangered/Candidate Threatened

3.7.3.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

a, b, c, and d: Less than Significant Impact

Project construction activities necessary to achieve the proposed project would occur fully within the existing paved roadway and disturbed right-of-way. Construction activities for and operation of the closure of middle Morrison Canyon Road would not substantially adversely effect, disturb, or interfere with any wildlife, wildlife habitat, land resources, or wetlands. Additionally, the proposed barricades installed across the roadway would have ample space between them to allow continued wildlife movement in the area, as displayed in **Figure 2-2**. Furthermore, because vehicular traffic can act as a barrier to wildlife movement by causing wildlife-vehicle strike hazards, the reduction in automobile traffic on Morrison Canyon Road as a result of the project would reduce collision hazards, thereby potentially improving wildlife movement conditions in the project corridor. Therefore, the project would have a **less-than-significant impact** on riparian habitat, sensitive natural communities, wetlands, and wildlife corridors.

e: Less than Significant Impact

The project is not expected to require the removal of any trees. If it is identified that limited tree trimming or vegetation removal would be periodically required to maintain roadway clearance, trimming activities would be required to comply with City of Fremont Municipal Code Section 12.30.050, which allows incidental pruning of street trees measuring less than 15 feet in height and pruning of low hanging branches measuring less than two inches in diameter to maintain clearance heights over the public right-of-way; any pruning activities required outside of this defined scope require a street tree permit authorizing the pruning (City of Fremont 2010).

The City of Fremont has established standard development requirements to address resource protection, including special-status species biological resources (Municipal Code Section 18.218.050(b)). These include regulations to protect burrowing owls, nesting birds, and roosting bats. Because the proposed project would comply with all City ordinances, as necessary, and would not obviously conflict with other local policies or ordinances to protect biological resources, the impact would be **less than significant**.

f: No Impact

The project corridor is within the planning area for PG&E's *Bay Area Operations and Maintenance Habitat Conservation Plan*. However, because the proposed project does not involve any of the activities covered by this HCP (which is focused on operations and maintenance activities in the area associated with PG&E's gas and electric transmission and distribution system), and would not interfere with any of the special status species or native habitat types identified in the HCP, there would be **no impact** on a habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.7.3.3 References

California Native Plant Society (CNPS). 2019. Rare Plant Program: Inventory of Rare and Endangered Plants of California. Available at http://www.rareplants.cnps.org/advanced.html. Accessed May 14, 2019.

California Native Plant Society (CNPS). No Date. CNPS Rare Plant Ranks. Available at https://www.cnps.org/rare-plants/cnps-rare-plant-ranks. Accessed May 23, 2019.

CDFW. 2019a. Special Animals List: August 2019. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline. Accessed October 11, 2019.

CDFW. 2019b. California Natural Biodiversity Database: One Quad Search. Niles Quadrangle. Accessed May 14, 2018.

CDFW. No Date. Metadata Description of CNDDB Fields. Available at https://map.dfg.ca.gov/rarefind/view/RF_FieldDescriptions.htm. Accessed May 23, 2019.

City of Fremont. 2010. Fremont Municipal Code Section 12.30.050: Pruning Permit. Available at https://www.codepublishing.com/CA/Fremont/?Fremont08/Fremont0840.html. Accessed September 23, 2019.

City of Fremont. 2019. Fremont Municipal Code Section 18.218.050(b): Standard Development Requirements: Biology, Special-Status Species. Available: https://www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18218.html#18.218.050. Accessed February 27, 2020.

ICF. 2016. PG&E's Bay Area Habitat Conservation Plan for Operations and Maintenance. Available at https://www.fws.gov/sacramento/outreach/2017/11-22/docs/PGE_Bay_Area_HCP_Final.pdf. Accessed September 20, 2019.

USFWS. 2019. National Wetlands Inventory (NWI) Wetlands Mapper. Available at https://www.fws.gov/wetlands/data/mapper.html. Accessed May 23, 2019.

State of California Coastal Conservancy. 2013. Bay Area Ridge Trail: Vargas Plateau Construction. Available at https://scc.ca.gov/webmaster/ftp/pdf/sccbb/2013/1310/20131003Board11_Ridge_Trail_Vargas_Plateau.pdf. Accessed September 20, 2019.

USFWS. 2008. Birds of Conservation Concern. Available at https://www.fws.gov/migratorybirds/pdf/grants/BirdsofConservationConcern2008.pdf. Accessed May 23, 2019.

USFWS. 2019a. Environmental Conservation Online System. Alameda County, California. Available at https://ecos.fws.gov/ecp/. Accessed May 14, 2019.

USFWS. 2019b. Critical Habitat for Threatened and Endangered Species. Available at https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77. Accessed May 23, 2019.

3.7.4 Cultural Resources

3.7.4.1 Project Setting

On May 29, 2019, a qualified archaeologist submitted a cultural resources records search request to the Northwest Information Center (NWIC) to determine the presence of any known cultural resources (archaeological resources or historic resources) within a 0.25-mile radius of the proposed project. The records search identified one formal, built historic resource within the search radius. This resource, the Vargas Barn Site, has been previously recorded in both 2002 and 2006 and is located approximately 1,200 feet northeast of the proposed closure at the intersection of Morrison Canyon Road and Vargas Road. However, this resource is located approximately 0.2 miles from the project corridor and would not be affected by the proposed project.

The City of Fremont has established standard development requirements to address resource protection, including accidental discovery of cultural resources, human remains, and paleontological resources (Municipal Code Section 18.218.050(c)). Should such remains or resources be discovered, the provisions of CEQA Guidelines Sections 15064.5(e) and (f), which are intended to avoid impacts to human remains and historical or archaeological resources, shall be implemented (City of Fremont 2019).

3.7.4.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

a: No Impact

The Vargas Barn Site was identified within the 0.25-mile NWIC search radius for the project corridor. Because no proposed project activities would occur within or adjacent to this or any other

historical resource, neither project construction nor operations would have the potential to cause adverse changes to this historical resource. Thus, there would be **no impact** to historical resources.

b-c: Less than Significant Impact

Any excavation activities have the potential to encounter unanticipated cultural resource discoveries such as archaeological resources or human remains. However, the only ground disturbance required for project construction would be bolting the barricades into the pavement on Morrison Canyon Road and installing signage within the disturbed right-of-way. This minimal ground disturbance is not full excavation, and thus the likelihood of discovering unanticipated cultural resources during project construction is minimal. In the unlikely event that such a resource is encountered during barricade and sign installation activities, the City would adhere to the above-mentioned standard best management practices and reporting requirements based on the nature of the unanticipated discovery, including Section 18.218.050(c) of the Fremont Municipal Code, Section 7050.5 of the State of California Health and Safety Code, and Section 5097 of the State of California Public Resources Code. Therefore, potential impacts to archaeological resources and human remains would be **less than significant**.

3.7.4.3 References

City of Fremont. 2019. Fremont Municipal Code Section 18.218.050(c): Standard Development Requirements: Cultural Resources. Available: https://www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18218.html#18.218.050. Accessed February 27, 2020.

State of California Native American Heritage Commission (NAHC). 2019. A Professional Guide for the Preservation and Protection of Native American Human Remains and Associated Grave Goods.

3.7.5 Energy

3.7.5.1 Project Setting

As described in greater detail below in Section 3.7.14, *Utilities and Service Systems*, PG&E provides electricity and natural gas services to the City, including the project area. In accordance with Executive Order S-14-08, private electricity providers, including PG&E, must diversity their electricity portfolio to at least 33 percent renewable resources by 2020. SBX1-2, the California Renewable Energy Resources Act, updated these requirements, mandating that utilities source from 50 percent renewable resources by 2030. In 2018, PG&E delivered 39 percent of its energy from qualified renewable resources, reaching California's 2020 renewable energy goal three years ahead of schedule (PG&E 2020).

Nearly half of all greenhouse gas emissions in the state come from transportation sources, including personal vehicles (California Energy Commission 2019). All combustion-engine vehicles (i.e., vehicles that are not fully electric) contribute to these emissions. Greenhouse gases are released during the combustion process of gasoline, automobile fuel, and oil, releasing energy in the form of heat. If vehicles are detoured to longer routes that require an increase in Vehicle Miles Traveled (VMT), as described in greater detail in Section 3.6, *Transportation and Circulation*, the amount of fossil fuels necessary to get from one place to another may increase, depending on rate of travel and fuel efficiency. Additionally, because vehicles are more energy-efficient at lower speeds, traveling an

equal distance but at a substantially increased speed would decrease energy efficiency, therefore increasing the amount of fossil fuels that would be required to power the automobile.

The State of California has numerous goals and policies intended to reduce the amount of energy utilized by the transportation sector, with a focus on reducing the amount of fossil fuel energy that is used (through gasoline, diesel, oil, etc.). These policies include promoting the installation of more electric vehicle charging stations, adjusting transportation study models, improving public transportation infrastructure, and prioritization of active transportation modes such as walking and bicycling (California Energy Commission 2019).

As described in Section 3.3, *Greenhouse Gases*, in 2008, the City adopted a goal to reduce greenhouse gas emissions by 25 percent when compared to 2005 baseline conditions by 2020. The transportation sector contributes up to 60 percent of the City's greenhouse gas emissions. One of the strategies the City has implemented to help achieve this goal is to improve the City's pedestrian and bicycle network in a manner that effectively redirects some automobile users to active transportation modes. The City's *Pedestrian Master Plan* (City of Fremont 2016) and *Bicycle Master Plan* (City of Fremont 2018), described in Section 3.6, *Transportation and Circulation*, will help the City implement the following actions defined in the City's Climate Action Plan (City of Fremont 2012). These actions are intended to reduce wasteful energy use from the transportation sector.

L-A2: Continue implementation of the City's *Pedestrian Master Plan* to improve pedestrian infrastructure (such as sidewalks and conveniently located crosswalks) for walking throughout the community, in order to support increased pedestrian trips.

L-A3: Continue implementation of the City's *Bicycle Master Plan* to improve bicycle infrastructure, in order to support increased bicycle trips.

3.7.5.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

a: Less than Significant Impact

Project construction would be limited to installation of barricades within the existing roadway and motion-activated beacons mounted on top of signage in the right-of-way. These features would not require the use of any heavy construction equipment or vehicles for installation. Energy usage during project construction would be limited to that required to drive one to two pickup trucks to and from the project area, and to operate regular hand tools, such as electric drills and screwdrivers.

Thus, energy usage during construction would be minimal and would not be wasteful, inefficient, or unnecessary.

Features requiring energy use for project operations would include solar-powered lights mounted atop the signage at the two road closure locations at the intersections of Morrison Canyon Road and Vargas Road and Morrison Canyon Road and Ridge Terrace. However, because these features would be locally solar-powered and thus would not rely on electricity from PG&E, the proposed project would not utilize any electricity in a wasteful or inefficient manner. Additionally, the permanent roadway closure would prohibit non-emergency automobile travel along middle Morrison Canyon Road, therefore preventing through-traffic from accessing Mission Boulevard from upper Morrison Canyon Road via this route. This alternate motorist route (accessing Mission Boulevard directly from the I-680 ramp and vice-versa) would result in decreased vehicle fuel use through a decrease in vehicle miles traveled (VMT) (refer to Section 3.6, *Transportation and Circulation*). Therefore, the project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation and this impact would be **less than significant**.

b: Less than Significant Impact

Both the State and the City have goals to improve modes of active transportation such as walking and bicycling while reducing VMT, as discussed above. As described in Section 3.6, *Transportation and Circulation*, project implementation would decrease VMT for personal vehicles that would no longer be able to access Mission Boulevard or Vargas Road via Morrison Canyon Road. Additionally, because East Bay Regional Parks does not identify Morrison Canyon Road from Mission Boulevard as a suggested route to access Vargas Plateau Regional Park, instead directing visitors to Morrison Canyon Road via I-680 and Vargas Road, the proposed permanent road closure would not change the VMT required to access Vargas Plateau Regional Park which is a main public point of interest along Morrison Canyon Road (East Bay Regional Parks District 2018). Furthermore, because the project would improve bicyclist and pedestrian safety conditions along middle Morrison Canyon Road, park visitors who may have previously driven personal vehicles to the park may instead choose active modes of transportation, which do not rely on electricity or fossil fuels in a wasteful or inefficient manner. Thus, the proposed project would generally be consistent with state and local energy efficiency goals, and impacts would be **less than significant**.

3.7.5.3 References

California Energy Commission. 2019. Transforming Transportation. Available: https://www.energy.ca.gov/sites/default/files/2019-06/TRAN-TransformingTransportation.pdf. Accessed October 16, 2019.

City of Fremont. 2016. City of *Fremont Pedestrian Master Plan*. Available: https://www.fremont.gov/DocumentCenter/View/34685/Fremont_PedPlan_Final-Adopted_Dec2016_Low-Res?bidId=. Accessed February 26, 2019.

City of Fremont. 2012. City of Fremont Climate Action Plan. November 2012. Available: http://www.fremont.gov/DocumentCenter/View/19837/Climate-Action-Plan?bidId=. Accessed October 16, 2019.

City of Fremont. 2018. *2018 Bicycle Master Plan*. Available: https://fremont.gov/3151/Bicycle-Master-Plan. Accessed October 16, 2019.

East Bay Regional Parks District. 2018. Vargas Plateau Regional Park. Available: https://www.ebparks.org/parks/vargas/default.htm. Accessed May 24, 2019.

PG&E. 2020. *Exploring Clean Energy Solutions*. Available: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page. Accessed March 25, 2020.

3.7.6 Geology and Soils

3.7.6.1 Project Setting

Geologic Hazards

The City's General Plan Safety Element identifies predominant seismic and geological hazards in the City and the general vicinity, including the project corridor. There are no active faults in the immediate project area. The Hayward Fault Zone is located approximately 0.5 miles west of the project area, and the Calaveras Fault Zone is located approximately 5 miles east of the project area (City of Fremont 2011).

A seismic event along either fault line could subject the project area to strong ground shaking and/or ground failure (liquefaction, landslides, and mudslides). Additionally, seismic events can lead to flooding following seiches and dam failures, as described in greater detail in Section 3.7.8 *Hydrology and Water Quality*. The project area is located on lands that would experience Very Strong and Violent shaking according to the Modified Mercalli Intensity Shaking Severity Scale in the event of a Magnitude 6.9 earthquake along the Hayward Fault. According to the General Plan, the base of Morrison Canyon Road near its intersection with Canyon Heights Drive is located within a Liquefaction Hazard Area; however, the proposed road closure location between Ridge Terrace and Vargas Road at Morrison Canyon Drive is not located in a Liquefaction Hazard Area and thus would not likely be subject to such hazards in a seismic event. The entirety of the project corridor is located within a Landslide Hazard Area. Landslides in the project area could occur as a result of seismic events, and are known to seasonally occur on Morrison Canyon Road in the project corridor due to heavy rainfall that erodes and destabilizes the steep slopes (City of Fremont 2011).

Soil Conditions

Soil types underlaying the project area, as well as characteristics and conditions of those soils within the project area, are shown below in Table 3.7-2.

Table 3.7-2. Soils Underlaying the Project Area

Soil Type	Soil Type Characteristics
Gaviota sandy loam, 40-75% slopes, eroded (GaF2)	Highly permeability Rapid runoff potential High erosion hazard
Lobitos shaly loam, eroded (LoE2)	Moderate permeability Medium-rapid runoff potential Moderate-high erosion hazard
Los Gatos-Los Osos complex, 30-75% slopes,	Slow permeability

Soil Type	Soil Type Characteristics
eroded (LpF2)	Rapid runoff potential High shrink-swell potential High erosion hazard
Los Osos silty clay loam, 30-45% slopes, eroded (LtE2)	Slow permeability Rapid runoff potential High shrink-swell potential High erosion hazard
Los Osos and Millsholm soils, 7-30% slopes, eroded (LuD)	Slow permeability Medium-rapid runoff potential High shrink-swell potential Moderate-high erosion hazard
Millsholm silt loam, 30-45% slopes, eroded (MhE2)	Moderate permeability Rapid runoff potential High erosion hazard

Source: California Soil Resource Lab 2013, United States Department of Agriculture 1975.

Paleontology

The project area is underlain by Kp and Tu geologic formations (California Department of Conservation 1991). There is one known paleontological resource documented within the Niles Quadrangle, approximately 3.5 miles northeast of the project area in the Sunol locality, which is underlain by QT geologic formations (FaunMap 2010, California Department of Conservation 1991).

3.7.6.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
2. Strong seismic ground shaking?	☐	☐	☐	☒
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
4. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of	☐	☐	☐	☒

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
topsoil?				
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

a-d: No Impact

Project implementation would not involve the installation of structures that would exacerbate the risk of loss, injury, or death associated with earthquake hazards beyond current conditions and would not increase the risk of landslides on the nearby erosive slopes or cause the substantial erosion of soil. Moreover, the project would be implemented to, among other factors, minimize the risk of existing roadside erosion and landslides to vehicles and people. In the event of a seismic or other emergency, residents and emergency vehicles would be able to access the permanently closed roadway segment of middle Morrison Canyon Road.

Additionally, the proposed project is located entirely on reasonably expansive soils with a moderate-to-high erosion potential and is located within a Landslide Hazard Area (City of Fremont 2011; California Soil Resource Lab 2013; United States Department of Agriculture 1975). However, the project would not cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides or unstable soils. Expansive soils have the potential to damage building foundations (Rogers, D., Olshansky, R., and Rogers, R. No Date), however, the project does not involve any buildings. As such, impacts related to the rupture of a known earthquake fault, seismic ground shaking, seismic-related ground failure, landslides, or erosion would not occur as a result of the project. The project would have no effect on onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse and would not create risks to life or property because of expansive soils. Therefore, there are **no impacts**.

e: No Impact

Because the proposed project does not include any septic tanks or other wastewater disposal systems, there would be **no impact** on septic tanks or alternative wastewater disposal systems.

f: No Impact

For project implementation, ground disturbance would be limited to installation of the roadway barriers and signage within the existing roadway and right-of-way. Therefore, it is unlikely that paleontological resources would be encountered because the roadway has been previously disturbed and the paleontological resource sensitivity of the project corridor is low. Additionally, the nearest known paleontological resource is located approximately 3.5 miles northeast of the proposed project. Therefore, **no impacts** would occur to a unique paleontological resource or site or unique geologic feature as a result of the project.

3.7.6.3 References

California Department of Conservation. 1991. Geologic Map of the San Francisco-San Jose Quadrangle, California, 1:250,000. Available at ftp://ftp.consrv.ca.gov/pub/dmg/pubs/rgm/RGM_005A/. Accessed September 20, 2019.

California Soil Resource Lab. 2013. SoilWeb Earth. Available at https://casoilresource.lawr.ucdavis.edu/soilweb-apps/. Accessed May 24, 2019.

City of Fremont. 2011. City of Fremont General Plan. Available at https://fremont.gov/398/General-Plan. Accessed May 24, 2019.

FaunMap. 2010. FaunMap: A Neotoma Constituent Database. Available at https://ucmp.berkeley.edu/faunmap/use/datadownload.html. Accessed May 24, 2019.

Rogers, D., Olshansky, R., and Rogers, R. No Date. Damage to Foundations from Expansive Soils. Available: https://web.mst.edu/~rogersda/expansive_soils/DAMAGE%20TO%20FOUNDATIONS%20FROM%20EXPANSIVE%20SOILS.pdf. Accessed September 20, 2019.

USDA. 1975. Soil Survey of Alameda County, California, Western Part. Available at https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA610/0/alameda.pdf. Accessed May 24, 2019.

3.7.7 Hazards and Hazardous Materials

3.7.7.1 Project Setting

There are no known Cortese-List hazardous waste sites within or immediately adjacent the proposed project (California Department of Toxic Substances Control 2019). The two active hazardous waste sites nearest to the proposed project, 4133 Peralta Boulevard (EnviroStor Identification Number 60002284) and 4565 Eggers Drive (EnviroStor Identification Number 60002272), are both located approximately 3.5 miles from the westernmost proposed road closure location (California Department of Toxic Substances Control 2019). The nearest active leaking underground storage tank site is approximately 4.1 miles southwest of the project corridor, along Blacow Road. There is an open site assessment underground storage tank location at the intersection of 3rd Street and Chase Court, approximately 1.4 miles northwest of the westernmost project boundary (SWRCB 2015).

The closest public use airports to the proposed project are Hayward Executive Airport and Livermore Municipal Airport, both located over 10 miles from the project. The proposed project is not within the Airport Influence Area of either facility, as identified in their respective Airport Land

Use Compatibility Plans (Alameda County Community Development Agency 2012a, Alameda County Community Development Agency 2012b).

The closest school to the proposed project is Vallejo Mill Elementary School, located approximately 0.75 miles northwest from the westernmost proposed road closure location (My School Location 2019).

As described in greater detail in section 3.7.15, *Wildfire*, lands surrounding the proposed project, as well as those within the general Hill Area vicinity, are identified as both Moderate and Very High Fire Hazard Severity Zones (CAL FIRE 2007). In the event of a wildfire or another emergency event in the region, residents may be required to evacuate. The City of Fremont recently adopted an Emergency Operations Plan (EOP) (City of Fremont 2019) which outlines the framework used by the City should a natural disaster, including a wildfire, occur. Specifically, it provides guidance for personnel assigned to emergency management by delineating the strategic, operational, and tactical initiatives employed by the City in response to an emergency. The EOP assigns authority and responsibility, outlines coordination efforts and communications systems, and identifies and provides the location of predesignated emergency facilities, and resources. The Fire Department is currently working on a City of Fremont Hillside Evacuation Plan and is partnering with neighboring county agencies to collaborate on countywide evacuation planning. The City's Local Hazard Mitigation Plan (City of Fremont 2016) includes risk mitigation plans and strategies pertinent to relevant local hazards including natural disasters such as flooding, earthquakes, landslides, and wildfire. The plan also identifies key facilities, such as schools, hospitals, and utility infrastructure, which may be especially vulnerable in a disaster scenario. While the Local Hazard Mitigation Plan does not identify emergency evacuation routes, the General Plan notes that depending on the nature of the emergency, residents within the project vicinity may be directed either towards or away from Niles Canyon in a natural disaster scenario (City of Fremont 2011).

3.7.7.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

a-d: No Impact

The proposed project would not involve any demolition, and the permanent closure of middle Morrison Canyon Road to private motor vehicles would not involve the potential to transport, use, or dispose of any hazardous materials. The proposed project is not located on or near an identified hazardous materials site. **No impacts** would occur regarding hazardous materials or a known hazardous materials site.

e: No Impact

The proposed project is not located within an airport land use plan area or within two miles of a public use airport. Therefore, **no impacts** would occur regarding an airport land use plan or airport facility.

f: Less than Significant Impact

As described above, the City recently adopted an EOP (City of Fremont 2019) which outlines the framework used by the City should a natural disaster, including a wildfire, occur. Evacuations in the project vicinity would likely be directed along either I-680 or Niles Canyon Road/State Highway 84, a full-service two-lane east/west road, and not along Morrison Canyon Road which is winding and single-lane. In the event of an emergency on Morrison Canyon Road or in the general project vicinity, emergency response vehicles and local residents would have continued access to the proposed closed portion of middle Morrison Canyon Road. The proposed roadway barricades across Morrison Canyon Road would be hinged at the base and mountable for a vehicle to pass through. It is noted that should the future design or means for road closure change, it would be required to allow for standard and emergency vehicle passage. Also, as part of the proposed project, directional signs or indicators of the designated evacuation route would be provided within the right-of-way at the intersection of Vargas

Road and Morrison Canyon Road to eliminate the immediate need for emergency response personnel for traffic control during an evacuation event until emergency personnel arrive. Therefore, the proposed project would have a **less-than-significant impact** on interference with an adopted emergency response or evacuation plan, or with emergency response capabilities.

g: Less than Significant Impact

The general Hill Area vicinity, including the project area, includes both Moderate and Very High Fire Hazard Severity Zones, and is subject to an elevated risk for wildfires to threaten people or structures (CAL FIRE 2007). The proposed project does not involve the construction of any housing or other buildings that could be damaged in a wildfire, or that could introduce additional people into the wildfire risk area. While the proposed project is permanent roadway closure, any closure mechanism(s) would be required to be designed so that both emergency and standard vehicles would be able to pass through in the event of an emergency. As described above, the proposed roadway barricades across Morrison Canyon Road would be hinged at the base and mountable for a vehicle to pass through. However, should the future design or means for road closure change, it would also be required to allow for standard and emergency vehicle passage.[1] Furthermore, because the roadway closure would not apply to emergency scenarios and would allow all vehicle passage in the event of an emergency, there would be a **less-than-significant impact** on the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. Also refer to Section 3.7.15, *Wildfires*, below.

3.7.7.3 References

Alameda County Community Development Agency. 2012a. Hayward Executive Airport: Airport Land Use Compatibility Plan. Available at https://www.acgov.org/cda/planning/generalplans/documents/HWD_ALUCP_082012_FULL.pdf. Accessed May 22, 2019.

Alameda County Community Development Agency. 2012b. Livermore Municipal Airport: Airport Land Use Compatibility Plan. Available at https://www.acgov.org/cda/planning/generalplans/documents/LVK_ALUCP_082012_FULL.pdf. Accessed May 22, 2019.

California Department of Toxic Substances Control. 2019. EnviroStor Database. Available at https://www.envirostor.dtsc.ca.gov/public/. Accessed May 14, 2019.

CAL FIRE. 2007. Alameda County Fire Hazard Severity Zones in SRA. Available at https://osfm.fire.ca.gov/media/7271/fhszs_map1.pdf. Accessed May 20, 2019.

City of Fremont. 2011. City of Fremont General Plan. Available at https://fremont.gov/398/General-Plan. Accessed May 24, 2019.

City of Fremont. 2016. City of Fremont Local Hazard Mitigation Plan. Available at https://fremont.gov/DocumentCenter/View/30910/2016-Fremont-LHMP---Report?bidId=. Accessed September 26, 2010.

[1] Any such future design change would remain subject to CEQA, with the City as lead agency making a determination if any new or different impacts from those disclosed in this EIR would result.

My School Location. 2019. Fremont Unified School District. Available at http://www.myschoollocation.com/fremontusd2/. Accessed May 22, 2019.

State Water Resources Control Board. 2015. GeoTracker. Available at https://geotracker.waterboards.ca.gov. Accessed May 14, 2019.

3.7.8 Hydrology and Water Quality

3.7.8.1 Project Setting

The project corridor is located entirely within the San Francisco Bay hydrologic region, and thus is subject to measures identified in the San Francisco Bay Basin Water Quality Control Plan. However, the project corridor is not located within a groundwater basin. The region approximately 0.4 miles west of the project corridor is located within the Santa Clara Valley Groundwater Basin and the Santa Clara Valley-Niles Cone Sub-Basin (Sub-Basin Number 2-009.01). The area located approximately 2 miles east of the proposed project corridor is located within the Sunol Valley Groundwater Basin and the Sunol Valley Sub-Basin (Sub-Basin Number 2-001) (California Department of Water Resources 2019). The project corridor is located within the Alameda County Water District Sphere of Influence (SOI) (State of California Department of Water Resources 2019). To monitor groundwater supply, water quality, and basin health, the water district implements numerous monitoring programs, as described in the Alameda County Water District Groundwater Management Policy (Alameda County Water District 2001).

The project is located adjacent to multiple hydrologic features identified in the United States Fish and Wildlife Services' National Wetlands Inventory (NWI): Morrison Creek runs parallel to the southern side of Morrison Canyon Road for the entire length of the roadway, including the project corridor. Numerous ephemeral drainages along Morrison Canyon Road feed into Morrison Creek, including a drainage located approximately 100 feet east of the intersection of Morrison Canyon Road and Ridge Terrace and a drainage located approximately 200 feet east of the intersection of Morrison Canyon Road and Vargas Road (USFWS 2019). None of the hydrologic features adjacent to the project corridor are currently identified as impaired by criteria pollutants according to the State of California Office of Environmental Health Hazard Assessment and § 303(d) of the Clean Water Act (OEHHA 2012).

The proposed project is not located within a tsunami inundation risk hazard zone (California Department of Conservation 2019, City of Fremont 2016). It is identified as an Area of Minimal Flood Hazard by the Federal Emergency Management Agency (FEMA) National Flood Insurance Program Flood Hazard Map (FEMA 2009). The City's Local Hazard Mitigation Plan does not identify specific areas that are at risk of seiche events; however, it notes that seismic events could generate a seiche in any of the City's reservoirs, leading to potential flooding in the Niles Canyon area in the unexpected event of a dam breach (City of Fremont 2016). The proposed project is located approximately 4.6 miles west of the San Antonio Reservoir in unincorporated Alameda County.

3.7.8.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
1. Result in substantial erosion or siltation on or off site;	☐	☐	☐	☒
2. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;	☐	☐	☐	☒
3. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
4. Impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

a: Less than Significant Impact

Installation of the proposed barricades and signage to implement the project would involve minor, isolated ground disturbance within the existing roadway and right-of-way. While ground disturbing activities always have the potential to release sediments that may run into water resources, degrading water quality, proposed project ground disturbance during construction would be minimal and would not be likely to disturb a quantity of sediment that would substantially degrade water quality within Morrison Creek or other nearby streams.

In operation, automobile vehicle use in the project area would be restricted to emergency response vehicles (police, fire, ambulance, etc.) and personal vehicles from hillside residents during

emergency scenarios. The project's overall reduction in automobile use on Morrison Canyon Road would correspondingly decrease the quantity of hydrocarbons (gasoline and oil) that may accumulate on the roadway and potentially degrade water quality in Morrison Creek as contaminated stormwater runoff. Impacts would therefore be **less than significant** related to the degradation of surface or groundwater quality.

b-c: No Impact

The project would not involve groundwater or groundwater recharge, grading, or new impervious surfaces; therefore, it would not alter existing drainage patterns, which could lead to substantial erosion or siltation. In addition, it would not increase impervious surfaces or create or contribute runoff water. The proposed signage and barricades would not substantially impede the flow of water. **No impacts** associated with groundwater supplies or drainage pattern alterations would occur.

d: No Impact

A portion of the proposed project area is located downstream of the Del Valle Dam and is considered susceptible to potential flooding in the unlikely event of a dam breach or seiche at two upstream reservoirs in the Alameda Creek watershed (City of Fremont 2016).

However, because project implementation would not introduce any pollutants into the area, **no impacts** would occur regarding the release of pollutants due to project inundation.

e: No Impact

The proposed project is located within the planning area for the San Francisco Bay Basin Water Quality Control Plan, which includes goals and objectives such as minimizing oil, grease, and sediment present in water bodies. Because the proposed project would not obviously conflict with these goals, **no impacts** are anticipated regarding a water quality control plan or sustainable groundwater management plan.

3.7.8.3 References

Alameda County Water District. 2001. Groundwater Management Policy. Available at https://www.acwd.org/DocumentCenter/View/125/Groundwater-Management-Policy-2001?bidId=. Accessed May 23, 2019.

California Department of Water Resources (DWR). 2019. DWR Groundwater Basin Boundary Assessment Tool (BBAT). Available at https://gis.water.ca.gov/app/bbat/. Accessed September 23, 2019.

California Department of Conservation. 2019. Alameda County Tsunami Inundation Maps. Available at https://www.conservation.ca.gov/cgs/tsunami/maps/alameda. Accessed May 22, 2019.

City of Fremont. 2016. 2016-2021 Local Hazard Mitigation Plan. Available at https://fremont.gov/DocumentCenter/View/30910/2016-Fremont-LHMP---Report. Accessed May 23, 2019.

State of California Office of Environmental Health Hazard Assessment (OEHHA). 2012. CalEnviroScreen 3.0 Impaired Water Bodies Map. Available at https://oehha.ca.gov/calenviroscreen/indicator/impaired-water-bodies. Accessed May 22, 2019.

USFWS. 2019. National Wetlands Inventory (NWI) Wetlands Mapper. Available at https://www.fws.gov/wetlands/data/mapper.html. Accessed May 23, 2019.

3.7.9 Mineral Resources

3.7.9.1 Project Setting

The City's General Plan identifies the following regionally-significant mineral resources present in Fremont: salt, construction aggregate material (sand and gravel/crushed rock), limestone, and clay. The project corridor, which is an existing roadway, is not identified as being underlain by regionally significant mineral resources (City of Fremont 2011).

3.7.9.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

a-b: No Impact

Because the proposed project does not involve the removal or extraction of any mineral resources, and does not overlay any lands known to support mineral resources, **no impacts** would occur.

3.7.9.3 References

City of Fremont. 2011. City of Fremont General Plan. Available at https://www.fremont.gov/398/General-Plan. Accessed May 22, 2019.

3.7.10 Population and Housing

3.7.10.1 Project Setting

The Association of Bay Area Governments (ABAG) develops population growth projections for the nine San Francisco Bay Area counties, as well as for incorporated cities within each county. The project is within Alameda County. ABAG projects that in 2020, the total Alameda County population will be approximately 1,711,460 people, with approximately 231,970 people living in the City of Fremont. By 2030, ABAG predicts these populations to increase to 1,868,635 people and 239,910 people, respectively (ABAG 2018). This suggests an anticipated 3.4 percent population growth rate in the City between 2020 and 2030.

The project corridor is located entirely within the central Hill Area planning area of Fremont. The General Plan, Community Plan Element indicates that development in all Hill Area planning areas (Hill Areas) should not exceed more than one residential unit per 20 acres. Thus, substantial long-term population growth is not planned along middle Morrison Canyon Road where the proposed permanent road closure would be, based on current Hill Area zoning restrictions (City of Fremont 2011). Development density in adjacent unincorporated Alameda County, located approximately 0.2 miles east of the project area on Morrison Canyon Road, is restricted to no more than one residential unit per 100 acres. Vargas Plateau Regional Park is located immediately northeast of the project corridor. The Vargas Plateau Regional Park Land Use Plan prohibits new development within the preserve area, with the exception of park facilities specifically intended for improvements at Vargas Plateau Regional Park (described in greater detail in Section 3.7.12, *Recreation*).

3.7.10.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a-b: No Impact

The proposed project does not include any additional housing or facilities that would contribute to direct population growth within the project corridor, nor does it propose any services or infrastructure that could contribute to indirect population growth through the region, such as places of employment or community services. Furthermore, because the proposed project would not displace existing people or housing, no new housing would need to be constructed elsewhere as a result of project implementation. Therefore, there would be **no impacts** related to population growth or displacement as a result of the project.

3.7.10.3 References

ABAG (Association of Bay Area Governments). 2018. Plan Bay Area Projections 2040: A Companion to Plan Bay Area 2040. Available at http://mtcmedia.s3.amazonaws.com/files/Projections_2040-ABAG-MTC-web.pdf. Accessed September 23, 2019.

City of Fremont. 2011b. City of Fremont General Plan. Community Plans Element. Available at https://www.fremont.gov/DocumentCenter/View/6642/11-Community-Plans-Element?bidId=. Accessed May 28, 2019.

East Bay Regional Parks District. 2018. Vargas Plateau Regional Park. Available at https://www.ebparks.org/parks/vargas/default.htm. Accessed May 24, 2019

3.7.11 Public Services

This section includes a discussion of the public services for which the project would not impact. An analysis of the public services that could be affected by the project are included in Section 3.5, *Public Services*.

3.7.11.1 Project Setting

The project area is located within the service boundaries of Fremont Unified School District (FUSD). The elementary school that serves the project site is Vallejo Mill Elementary School at 38569 Canyon Heights Drive, approximately 1.0 miles[2] away from the proposed westernmost road closure location. The proposed project is also served by Centerville Junior High School at 37720 Fremont Boulevard, approximately 4.0 miles[3] from the proposed westernmost road closure location, and Washington High School at 38442 Fremont Boulevard, approximately 3.6 miles[4] from the proposed westernmost road closure location (Fremont Unified School District 2019).

Parks in the vicinity of the project corridor include Vargas Plateau Regional Park, which is located immediately north of the majority of the project area, though does not border the project area along the easternmost 0.3 miles of the proposed closure near Vargas Road. Two additional City-managed facilities are within one mile of the proposed westernmost road closure location: Vallejo Mill Park (approximately 0.8 miles northwest of the closure) and Buena Vista Park (approximately 0.9 miles south of the closure) (City of Fremont 2011). Additionally, the recreational and athletic facilities for the California School for the Blind and California School for the Deaf, are approximately 0.8 miles west of the proposed westernmost closure location (Google Earth 2019). No other recreational facilities are located within one mile of the project area. The City maintains a parkland standard of five acres of parkland per 1,000 residents (City of Fremont 2011). The City of Fremont General Plan similarly includes a standard of five (5) acres per one thousand (1000) residents (Parks and Recreation Policy 8-1.2) (City of Fremont 2011).

The City of Fremont General Plan identifies public facilities located within the City. In addition, to the public facilities listed above, the Niles Reading Center (150 I Street) is approximately 2.3 miles[5] away from the proposed westernmost closure location and the Niles Veteran's Memorial Building (37154 Second Street) is approximately 2.6 miles[6] away from the proposed westernmost closure location (City of Fremont 2011).

[2] The distance of 1.0 miles was measured for driving, using a route of Canyon Heights Drive, to Maar Avenue, to Canyon Heights Drive, to Morrison Canyon Road.

[3] The distance of 4.0 miles was measured for driving, using a route of Fremont Boulevard, to Parish Avenue, to Peralta Boulevard, to Mowry Avenue, to Overacker Avenue, to Morrison Canyon Road.

[4] The distance of 3.6 miles was measured for driving, using a route of Fremont Boulevard, to Eggers Drive, to Paseo Padre Parkway, to Morrison Canyon Road.

[5] The distance of 2.3 miles was measured for driving, using a route of I street, to Horse Land, to Niles Boulevard, to Mission Boulevard, to Morrison Canyon Road.

[6] The distance of 2.6 miles was measured for driving, using a route of 2nd street, to H street, to Niles Boulevard, to Mission Boulevard, to Morrison Canyon Road.

3.7.11.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

a (iii, iv, v): No Impact

As described in Section 3.7.10, *Population and Housing*, the project would not result in direct or indirect population growth. Thus, the project would not result in a demand for school services, parks, or other public facilities. The project would, therefore, not require the provision of new or altered school facilities, parks, or other public facilities. Therefore, there would be **no impact**.

3.7.11.3 References

City of Fremont. 2011. City of Fremont General Plan (Parks and Recreation, Chapter 8; Public Facilities, Chapter 9). December 2011. https://fremont.gov/398/General-Plan. Accessed October 9, 2019.

Fremont Unified School District. 2019. My School Location. Available: https://www.myschoollocation.com/fremontusd2/. Accessed October 9, 2019.

Google Earth. 2019. Version 7.3.2.5776 (64-bit), Build Date March 5, 2019. Screen Capture Date: October 10, 2019. Imagery Date: April 2, 2018.

3.7.12 Recreation

3.7.12.1 Project Setting

One of the entrances to Vargas Plateau Regional Park, managed by East Bay Regional Parks District, is located immediately north of the proposed easternmost project boundary. This park offers hiking and walking paths, equestrian and dirt cycling trails, and wildlife viewing opportunities. Park access is from the Vargas Plateau Staging Area approximately 0.3 miles east of the proposed road closure at

the intersection of Morrison Canyon Road and Vargas Road, and from the Niles Canyon Staging Area along the western side of the park, along Old Canyon Road (East Bay Regional Park District 2018). East Bay Regional Parks District does not identify Morrison Canyon Road from Mission Boulevard as a suggested route to access Vargas Plateau Regional Park. It directs visitors to Morrison Canyon Road via I-680 and Vargas Road (East Bay Regional Parks District 2018). The *East Bay Regional Park District Master Plan 2013* is a comprehensive plan covering all the District's parklands, including Vargas Plateau Regional Park. This plan, which is described in greater detail in Section 3.4, *Land Use and Planning*, contains the following goals and policies relevant to the organization's facilities, including the proposed project.

> **Goal PA5:** The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.
>
> **Goal PRPT10:** The District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails in order to provide loop trail experiences and to connect the regional system to the community. The District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.

A portion of the Bay Area Ridge Trail, a large regional trail network managed by numerous Bay Area recreational agencies, spans Vargas Plateau Regional Park. Trail extensions are planned both north of Vargas Plateau Regional Park to connect to an existing trail segment within Garin/Dry Creek Regional Park, and south of Vargas Plateau Regional Park to connect to an existing trail segment within Mission Peak Regional Park (Bay Area Ridge Trail Council 2017). The City's General Plan includes goals pertaining to improving and expanding the trail network within the City, including portions of the Bay Area Ridge Trail (City of Fremont 2011).

The City of Fremont General Plan Parks and Recreation Element identifies the following types of City-managed parks:

- Citywide Parks, which serve the recreational needs of the entire community;
- Neighborhood Parks, which provide daily recreation needs for nearby residents;
- Mini Parks, which are small and provide limited recreation opportunities;
- Historic Parks, which preserve historic sites and structures;
- Civic Parks, which are outdoor gathering areas such as plazas, squares, and courtyards; and
- Linear Parks, which are recreational facilities that generally include a paved path intended to serve walkers, runners, and cyclists, and that function as a non-driving transportation alternative (City of Fremont 2011).

The Parks and Recreation Element of the General Plan (General Plan Diagram 8-2 Recreational Trails) identifies Morrison Canyon Road as an "existing/planned recreational trail", and it is a widely-used and major access route for pedestrians and bicyclists to reach Vargas Plateau Regional Park and connecting recreational trails (refer to Section 3.6, *Transportation and Circulation* for existing bicycle and pedestrian volume counts on Morrison Canyon Road). On weekends, there are

more pedestrians and bicyclists using Morrison Canyon Road than automobile vehicles (City of Fremont 2019).

Two other City parks are located within one mile of the proposed western closure point of Morrison Canyon Road: Vallejo Mill Park (approximately 0.8 miles northwest of the project corridor) and Buena Vista Park (approximately 0.9 miles south of the project corridor) (City of Fremont 2011). Additionally, the recreational and athletic facilities for the California School for the Blind and California School for the Deaf are located approximately 0.8 miles west of the proposed westernmost closure location of Morrison Canyon Road (Google Earth 2019). No other recreational facilities are located within one mile of the project.

3.7.12.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

a-b: Less than Significant Impact

The proposed project is located adjacent to Vargas Plateau Regional Park. Project implementation would permanently close private vehicular access to the park to and from Mission Boulevard/I-680 via Morrison Canyon Road. This would significantly impact vehicular access to Vargas Plateau Regional Park because it would eliminate one of two vehicular routes to reach the park. Access to the park by bicycle or pedestrian means would not be impacted because the project's proposed barriers would be passable by bicycles and pedestrians. However, because East Bay Regional Parks District does not identify Morrison Canyon Road from Mission Boulevard/I-680 as a suggested motor vehicle route for park access, the proposed project may not result in a significant decrease of park visitors that access the park by personal motor vehicle. Private motor vehicles would still have continued access to the park via Vargas Road; access to the park from the Niles Canyon Staging Area would be unchanged by the project.

Additionally, project implementation would support the goals of the General Plan to improve and expand the trail network within the City, which identifies Morrison Canyon Road as an "existing/planned recreational trail" (General Plan Diagram 8-2 Recreational Trails). The project would improve bicyclist and pedestrian road safety conditions which could make Morrison Canyon Road a more attractive route to cyclists and pedestrians, subsequently encouraging increased bicycle and pedestrian use of the project corridor and Vargas Plateau Regional Park. This potentially increased usage could lead to the need for facility updates to maintain adequate service levels, such

as installation of additional bike racks and increased maintenance of designated park trails. However, these improvements and updates are expected to be minimal in nature and would be conducted in accordance with East Bay Regional Park District park policies. Therefore, the proposed project's impact on the increased use of existing parks or other recreational facilities and the potential to require the construction or expansion of recreational facilities would be **less than significant**.

3.7.12.3 References

Bay Area Ridge Trail Council. 2017. Bay Area ridge Trail Council Regional Map. Available at https://ridgetrail.org/ridgetrail/wp-content/uploads/2017/05/2017-Map-Template-Vertical-11x17-with-sponsors.pdf. Accessed October 11, 2019.

City of Fremont. 2011. City of Fremont General Plan: Parks & Recreation Element. Available at https://www.fremont.gov/DocumentCenter/View/4672/08-Parks-and-Recreation?bidId=. Accessed May 28, 2019.

City of Fremont. 2019. *Transportation Engineering, Major Projects, Morrison Canyon Road Traffic Safety Project*. Online at: https://fremont.gov/3115/Morrison-Canyon-Road-Traffic-Safety-Proj. Accessed 10/3/2019.

East Bay Regional Parks District. 2018. Vargas Plateau Regional Park. Available at https://www.ebparks.org/parks/vargas/default.htm. Accessed May 24, 2019.

Google Earth. 2019. Version 7.3.2.5776 (64-bit), Build Date March 5, 2019. Screen Capture Date: October 10, 2019. Imagery Date: April 2, 2018.

3.7.13 Tribal Cultural Resources

3.7.13.1 Project Setting

Under Assembly Bill 52 (AB 52), project proponents must submit a formal tribal consultation letter to California tribes within the geographic area surrounding the proposed project. The purpose of AB 52 and the tribal consultation process is to identify and consider potential impacts to Tribal Cultural Resources and to take tribal cultural values into consideration when determining possible impacts under CEQA. Public Resources Code Section 21074(a) defines tribal cultural resources as either of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either: (1) included or determined to be eligible for inclusion in the California Register of Historical Resources; or (2) included in a local register of historical resources as defined in subdivision (k) of Public Resources Code Section 5020.1; or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

As part of the consultation process, project proponents must contact the Native American Heritage Commission (NAHC), which will conduct a Sacred Lands File search to identify known Tribal Cultural Resources within the geographic area and provide a list of tribes in the vicinity who must be contacted via a formal AB 52 consultation letter. The project proponent must submit a letter to each identified

tribe containing a brief description of the proposed project, a summary of NAHC Sacred Lands File search results, and an explanation of the tribal consultation process in the context of AB 52.

On May 24, 2019, a qualified archaeologist submitted a Sacred Lands File search request to the NAHC. On May 29, 2019, the NAHC responded to the request. The Sacred Lands File check was negative for Tribal Cultural Resources; thus, the proposed project is not located within historically sacred lands, and Tribal Cultural Resources were not identified. The NAHC identified the tribes listed below as occurring in the geographic vicinity of the proposed project. The project proponent submitted AB 52 consultation letters to these tribes on June 12, 2019 (City of Fremont 2019) and at the time of EIR publication the City had received no requests for consultation (Roth pers. comm. 2020).

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- North Valley Yokuts Tribe
- Ohlone Indian Tribe

NAHC correspondence and documentation, as well as tribal consultation letters, are included as Appendix E to this document.

The City of Fremont has established standard development requirements to address resource protection, including the protection of cultural resources (Municipal Code Section 18.218.050(c)). The requirements include notification and evaluation procedures to protect cultural resources that may be located in areas considered sacred lands or that may be accidentally discovered during construction activities (City of Fremont 2019).

3.7.13.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in	☐	☐	☒	☐

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				

a-b: Less than Significant Impact

The NAHC Sacred Lands File search conducted for the proposed project did not identify any tribal cultural resources within the project vicinity. Additionally, because project installation activities would be restricted to the existing disturbed roadway and right-of-way, extensive excavation would not occur, and unanticipated discovery of such resources would be unlikely. In the unlikely event of an unanticipated discovery of a potential tribal cultural resource during project construction, the requirements established by the City for the handling of such resources would be followed. Thus, impacts to tribal cultural resources would be **less than significant**.

3.7.13.3 References

City of Fremont. 2019. AB 52 Consultation Letters regarding the Morrison Canyon Road Traffic Safety Project. Personal communication sent via post. June 12, 2019.

City of Fremont. 2019. Fremont Municipal Code Section 18.218.050(c): Standard Development Requirements: Cultural Resources. Available: https://www.codepublishing.com/CA/Fremont/#!/Fremont18/Fremont18218.html#18.218.050. Accessed February 27, 2020.

Personal Communications

Roth, Bill, City of Fremont. 2020. Personal email communication with Quick, Lisetta, ICF. January 17, 2020.

3.7.14 Utilities and Service Systems

3.7.14.1 Project Setting

Water Resources

The Hill Area of Fremont, which includes the project corridor and its surrounding area, is located within the Alameda County Water District Sphere of Influence (State of California Department of Water Resources 2018); however, Hill Area properties are served by private onsite wells on individual properties (City of Fremont 2011). Accessible local groundwater resources underlie the Santa Clara Valley Groundwater Basin and the Santa Clara Valley-Niles Cone Sub-Basin immediately to the west and east of the project area, respectively (Alameda County Water District 2019).

Wastewater Treatment and Sewer Facilities

Most wastewater generated in the cities of Fremont, Newark, and Union City – which collectively form the Union Sanitary District – is conveyed through the existing sanitary sewer pipeline system and to one of three pump stations (Irvington Pump Station, Newark Pump Station, and Alvarado Pump Station). From the pump stations, wastewater is transported to the Alvarado Wastewater Treatment Plant in Union City for treatment. However, the Hill Area, which includes the project area, relies on private onsite septic systems, and therefore is not serviced by the City's sewer network, any of the three identified pump stations, or the Alvarado Wastewater Treatment Plant (City of Fremont 2011).

Stormwater Drainage

The project corridor is located within Zone 6 of the City's storm drainage system. Creeks in Zone 6 drain to pipelines and natural streams/channels that convey water to Coyote Creek or Mowry Slough prior to discharge into San Francisco Bay (City of Fremont 2011).

Electric Power and Natural Gas

PG&E provides electric power and natural gas services citywide in Fremont, including the project area (PG&E 2014a, PG&E 2014b). Electric power is conveyed to Fremont customers through a combination of overhead and underground lines, and natural gas is conveyed through underground pipelines (City of Fremont 2011).

Telecommunications Facilities

The City and the project area are well-served by existing telecommunications infrastructure through wireless services and a fiber-optic cable network (City of Fremont 2011). Cell phone coverage along Morrison Canyon Road can be unreliable.

Solid Waste Disposal

Solid waste from Fremont, including the project area, is brought to the Fremont Recycling and Transfer Station (SWIS No. 01-AA-0297), where it is sorted and transported to the Altamont Landfill (SWIS No. 01-AA-0009), which has a remaining capacity of 65,400,000 cubic yards and is currently permitted for continued operations through January 1, 2025 (City of Fremont 2011, CalRecycle 2019). Republic Services provides residential solid waste disposal services citywide and in the project area (City of Fremont 2019). In 2017, City residents generated an average of 4.4 pounds per capita per day of solid waste, and employees who may or may not reside in the City generated an average of 9.0 pounds per capita per day of solid waste; these quantities are within City goals of generating under 6.6 pounds per capita per day for residents and 16.1 pounds per capita per day for employees.

The City participates in a waste-reduction joint power agreement called StopWaste with Alameda County, all other incorporated cities in Alameda County, and two local sanitary districts. As of 2010, the City achieved a 74 percent solid waste diversion rate through implementation of mandatory single- and multi-family home recycling programs and composting programs (City of Fremont 2011). The City also has solid waste diversion and recycling projects for construction and demolition projects, including a requirement that construction and demolition waste generators complete a Waste Handling Plan (City of Fremont 2018).

3.7.14.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
c. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

a-e: No Impact

The proposed project would not affect any existing utility facilities, nor would it require the construction of new or expanded utility facilities. Furthermore, as described in greater detail in Section 3.7.10, *Population and Housing*, project implementation would not induce population growth. The proposed signage on Morrison Canyon Road would be accompanied by solar-powered lights (see **Figure 2.2**) and would not necessitate the construction of new or expanded electrical facilities. Therefore, **no impact** related to utilities or service systems would occur.

3.7.14.3 References

Alameda County Water District. 2019. Available at https://www.acwd.org/100/ACWDs-Water-Sources-Supplies. Accessed September 23, 2019.

City of Fremont. 2018. Waste Handling Plan. Available at http://fremont.gov/DocumentCenter/View/24608/WHP-only?bidId=. Accessed September 23, 2019.

CalRecycle. 2019. CalRecycle Solid Waste Information System (SWIS) Facility Search. Available at https://www2.calrecycle.ca.gov/swfacilities/Directory/. Accessed September 23, 2019.

City of Fremont. 2011. City of Fremont General Plan: Parks & Recreation Element. Available at https://www.fremont.gov/DocumentCenter/View/4672/08-Parks-and-Recreation?bidId=. Accessed May 28, 2019.

City of Fremont. 2019. Residential Services. Available at https://www.fremont.gov/142/Residential-Services. Accessed September 23, 2019.

PG&E. 2014a. Electric Service Area Maps. Available at https://www.pge.com/tariffs/tm2/pdf/ELEC_MAPS_Service_Area_Map.pdf. Accessed September 23, 2019.

PG&E. 2014b. Gas Service Area Maps. Available at https://www.pge.com/tariffs/tm2/pdf/GAS_MAPS_Service_Area_Map.pdf. Accessed September 23, 2019.

3.7.15 Wildfire

3.7.15.1 Project Setting

CAL FIRE identifies State Responsibility Areas (SRAs), which are areas in which CAL FIRE is responsible for wildfire management, and Local Responsibility Areas (LRAs), which are areas in which local fire agencies are responsible for wildfire management. However, because wildfires can rapidly spread across responsibility areas, local and state firefighting groups often work collaboratively to control wildland fires and fires within the urban-wildland interface. Furthermore, the Fremont Fire Department works collaboratively with local fire departments in other nearby jurisdictions, including Union City, to improve response times along city boundaries (City of Fremont 2016). The City of Fremont has recently adopted an EOP (City of Fremont 2019) which outlines the framework used by the City should a natural disaster, including a wildfire, occur. The Fire Department is currently working on a City of Fremont Hillside Evacuation Plan and is collaborating with neighboring county agencies on countywide evacuation planning.

Lands surrounding the proposed project are identified as both Moderate and Very High Fire Hazard Severity Zones (CAL FIRE 2007). The proposed easternmost roadway closure point, at the intersection of Morrison Canyon Road and Vargas Road, is located approximately 0.2 miles from a designated SRA. The hills and ridgelines in eastern Fremont, in the project area, present a substantial wildfire risk at the urban-wildland interface along the highly sloped topography (City of Fremont 2011). In 1958, the Overacker fire burned approximately 288 acres approximately 2.3 miles southeast of the proposed project. In 2005, the slightly larger Koopman Fire burned approximately 4.2 miles northeast of the proposed project (City of Fremont 2011, Capital Public Radio 2018). The City's Local Hazard Mitigation Plan identifies a key wildfire safety strategy of maintaining fire access road ingress/egress in risk areas to aid in emergency response and site evacuation. While Morrison Canyon Road is not a dedicated fire access road, it provides an important access route to the Hill Area, which is susceptible to wildfire hazards (City of Fremont 2016). Also refer to Section 3.7.7, *Hazards and Hazardous Materials*, above.

3.7.15.2 Impact Analysis

Significance Criteria	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

a: Less than Significant Impact

In operation, the proposed project would permanently close middle Morrison Canyon Road to private motor vehicles, thereby limiting vehicular access to the Hill Area. Emergency response vehicles (police, fire, ambulance etc.) and personal vehicles of Hill Area residents would have full access to the closed roadway segment in the event of an emergency. This would be consistent with the City's EOP and Local Hazard Mitigation Plan access policies. Additionally, as described in Section 3.7.7, *Hazards and Hazardous Materials*, the General Plan Safety Element notes that in emergency scenarios, evacuations may be directed either away from or towards the Niles Canyon area (most likely along either I-680 or Niles Canyon Road/State Highway 84) depending on the nature and location of the emergency (City of Fremont 2011). Also, as part of the proposed project, directional signs or indicators of the designated evacuation route would be provided within the right-of-way at the intersection of Vargas Road and Morrison Canyon Road to eliminate the immediate need for emergency response personnel for traffic control during an evacuation event until emergency personnel arrive. Therefore, the project would have a **less-than-significant impact** on the impairment of an adopted emergency response plan or emergency evacuation plan.

b, d: No Impact

The proposed project itself would not affect or be affected by slope, prevailing winds, and other factors known to exacerbate wildfire risks and associated exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire in the project area. Project

implementation would significantly reduce the number of vehicles that utilize Morrison Canyon Road, thereby minimizing the exposure of people and vehicles to any fire-related roadway hazards in the project corridor. The project would not otherwise expose people or structures to significant risks, including landslides, flooding or runoff, post-fire slope instability, or drainage changes. Should a wildfire occur that would present such dangers to users of this roadway, the City would re-assess the dangers at that time and act accordingly to address the safety of the roadway.

Also, permanently excluding private vehicles on middle Morrison Canyon Road would reduce overall traffic, which may reduce the potential for wildfires to ignite in the project area from a well-known cause – that of a spark from a combustion engine. Therefore, **no impacts** pertaining to the potential to exacerbate wildfire risks or expose individuals to secondary hazards such as landslides would occur.

c: No Impact

None of the proposed features necessary to implement the project, including barricades at the intersections of Morrison Canyon Road and Ridge Terrace and Morrison Canyon Road and Vargas Drive, would exacerbate fire risk or increase the potential for a wildfire to ignite. Because emergency vehicle access would be maintained on Morrison Canyon Road, fire response vehicles would not be affected by the closure. Thus, **no impact** would occur.

3.7.15.3 References

CAL FIRE. 2007. Alameda County Fire Hazard Severity Zones in SRA. Available at https://osfm.fire.ca.gov/media/7271/fhszs_map1.pdf. Accessed May 20, 2019.

CAL FIRE. 2019. State Responsibility Area Viewer. Available at https://osfm.fire.ca.gov/media/7271/fhszs_map1.pdf. Accessed October 10, 2019.

Capital Public Radio. 2018. A History of California Wildfires: Perimeters of wildfires in California from 1878 to early 2018 (CAL FIRE), perimeters of wildfires in California in 2018 (USGS). Available at http://projects.capradio.org/california-fire-history/#8.99/37.8446/-122.3934. Accessed May 23, 2019.

City of Fremont. 2016. 2016-2021 Local Hazard Mitigation Plan. Available at https://fremont.gov/DocumentCenter/View/30910/2016-Fremont-LHMP---Report. Accessed May 23, 2019.

City of Fremont. 2019. *Emergency Operations Plan, Basic Plan*.